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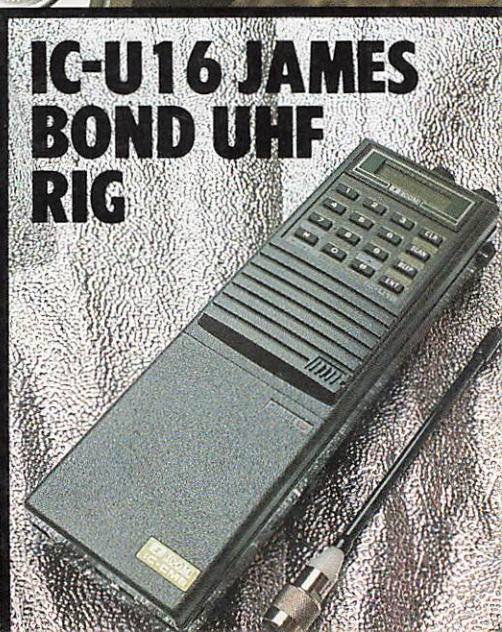

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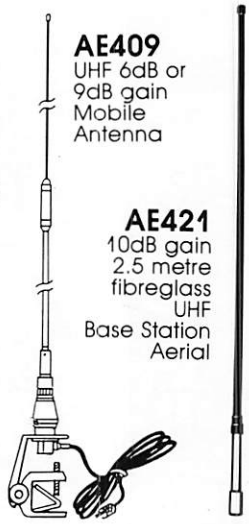

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ON CHANNEL

BIG FINES IN VICTORIA

The word is around the traps that the Red Indians are being anything but friendly in and around Melbourne.

A case was heard in the Dromana, Victoria court a couple of months back in respect to a "bust" of some 12 months earlier and it earned the "bustee" a fine of $500.

That's a pretty hefty fine and it was not for foul-mouthing, operating out of the legal band allocation, or even for just dropping carriers upon the unsuspecting — no, it was for simply being unlicenced.

The "bustee" had owned his rig for just one month when he was visited by the law, but, they didn't muck around and knocked him off on the spot.

Now, 12 months later, there is a major purge taking place with some very busy R.I.s shutting down and charging a large number of metropolitan Melbourne operators with everything from unlicenced operation to foul mouthing and running illegal equipment.

The DoTaC gentlemen are steadily working through a list compiled during recent months from complaints of CBers about foul mouths and other assorted brain-dead plus of course many TVI afflicted neighbors.

A number of well-known nuisance stations have already been taken off air and, judging by the length of the list for visits yet to be made, it's going to be a very unhappy Christmas for a large number of operators.

. . . and come the court hearing, it's also going to be an expensive 1989.

YES — WE KNOW . . . . !

Our 'phones rang hot telling us about the mistake in question six of the last issue's Wordmaze so we've decided to carry the competition into this issue and give everyone a second chance for the Leopard UHF.

All entries already received will be included (less question six) so you've got another opportunity to make 1989 a great one with a free UHF rig.

The Wordmaze is on page 52 and we stress — all entries already received will be included in the final draw with the question six being deleted from the answers.

Go for it . . .

ALL THE BEST FROM US TO YOU

As it's almost that time of the year, we take this opportunity to wish you and your's everything that you would wish for yourself (including a legal 80 channels, legal overseas DX and legal 100w output plus linear) with our own promise of CB Action being better than ever during the coming year.

Our thanks to all our readers and our particular thanks to our contributors and advertisers without whose continued support life would indeed be somewhat more difficult than it is now.

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MOBILE ONE BOOT MOUNTS

POLISHED STAINLESS STEEL OR BLACK

FEATURES

The Mobile One Stainless Steel Boot Mount is an Australian made antenna mounting system, designed as a substitute for front or rear guard mounting and will fit the bonnet or boot of most vehicles.
The unique feature of the Mount is that it can be installed without drilling any holes.

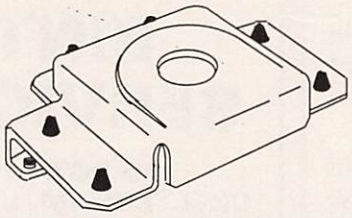
The following Base and Lead Assemblies can be used with the Boot Mount:

A12C	•Light Duty Roof Mount Base, 12 Foot of RG58 Coaxial Cable & PL259
A3.6	•Light Duty Roof Mount Base and 3.6 mtrs RG58c/u (Mil Spec)
UL3.6	•UHF Coax Roof Mount Base and 3.6 mtrs RG58c/u (Mil Spec)
DM12CK	•Encapsulated Dipole Mount, 3.6 mtrs RG58c/u Coax & Mounting Kit.
SOC	•SO239 Coaxial Mount. For Whips with a PL259 Termination.

INSTALLATION

1. INSTALL APPROPRIATE BASE ASSEMBLY ON TO MOUNT.
2. OPEN THE BOOT OR BONNET AND LOCATE DESIRED POSITION.
3. SLIDE THE BOOT MOUNT OVER THE LIP OF THE BOOT OR BONNET.
4. SECURE THE STAINLESS STEEL SCREWS WITH THE ALLEN KEY PROVIDED.
5. RUN COAXIAL CABLE INSIDE TO THE TRANSMITTER AND VSWR ANTENNA.

AVAILABLE IN POLISHED STAINLESS STEEL OR BLACK POWDER COAT.



PATENT PENDING No. 77770/87 REG. DESIGN No.99152

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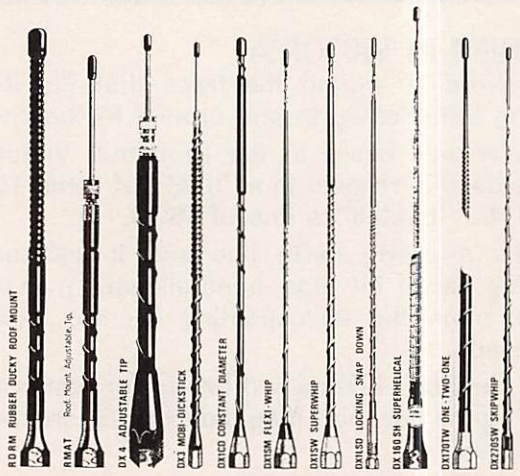
MOBILE ONE CB ANTENNAS

AUSTRALIAN DESIGNED AND MANUFACTURED 27MHz CITIZENS BAND ANTENNAS



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MOBILE ONE MAGNETIC MOUNT

MAG12C Mobile Magnetic Mount

The Mag12c Magnetic Mount Assembly has been manufactured in Australia to meet the varying needs of the Mobile User, who requires an easily removable antenna mount for portable applications.

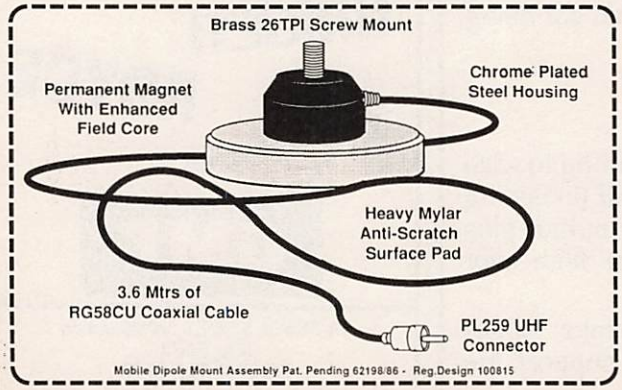
For some time, it has been noted that a need exisedt for a good Magnetic Base Mount that grips the car at up to speeds of 100 kph+ with a 60" (1.5mtr) whip.

Most Australian standard 5/16" X 26 TPI female screw thread whips (to a maximum of 200 grams) can be used with the MAG12C.

All terminations are encapsulated in the Glass Impregnated Nylon moulding of the 'Mobile Dipole Mount' base assembly, (Patent Pending), giving maximum mechanical strength and total weather protection for all electrical connections.

Another feature of this unique mount is the anti-scratch protection pad, made from mylar fibres. It is tough and long lasting, yet will not scratch or damage the paintwork of your vehicle.

THE MAG 12C MAGNETIC ANTENNA MOUNT


Brass 26TPI Screw Mount
Permanent Magnet With Enhanced Field Core
Chrome Plated Steel Housing
Heavy Mylar Anti-Scratch Surface Pad
3.6 Mtrs of RG58CU Coaxial Cable
PL259 UHF Connector

Mobile Dipole Mount Assembly Pat. Pending 62198/86 - Reg.Design 100815

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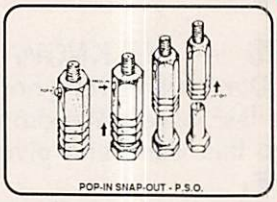
MOBILE ONE ADAPTOR ACCESSORIES

ALL ADAPTERS ARE DESIGNED TO MATE WITH 5/16"26TPI AUSTRALIAN STANDARD

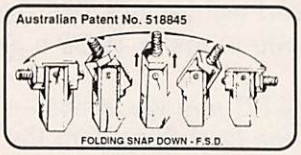
POP-IN SNAP-OUT

The Pop-in Snap Out quick release system has been developed for the fast and easy removal of mobile whips from their base mounts. Once the **P.S.O.** has been attached to the base and antenna, there is no need to engage in any more tedious unscrewing to remove it. Just Pop in the button aand the antenna will "Snap" from its uniquely designed locking apparatus.



POP-IN SNAP-OUT - P.S.O.

Australian Patent No. 518845



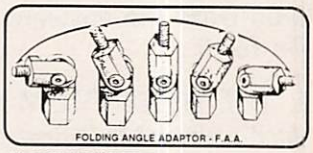
FOLDING SNAP DOWN - F.S.D.

FOLDING SNAP-DOWN

TheFolding Snap-Down adapter has been designed to allow the antenna to remain vertical at high speeds, yet when confronted with overhead obstructions, the **F.S.D.** allows the antenna to be folded down horizontally for maximum clearance.

FOLDING ANGLE ADAPTER

The Folding Angle Adaptor's ability to fold 180° means that while mobile bases can be mounted at any angle, the antenna assumes the required angle for optimum performance. The **F.A.A.** enhances the performance as well as the appearance of th antenna. Suitable for heavy whips.



FOLDING ANGLE ADAPTOR - F.A.A.

SPRING ASSEMBLY SMALL

The Spring Assembly reduces the incidence of impact shock to the vehicle panelling directly beneath the base mount by allowing the antenna to deflect from overhead obstructions.

SLOPE ADJUSTER

The Slope Adjuster's ability to swivel enables the antenna to be adjusted vertically for better performance and appearance from a base mount angle of up to30°. Suitable for light whips. Available inChrome *SAC* or in Mat Black *SAB*

SLOPE ADJUSTER CHROME - S.A.C.

MOBILE ONE PRODUCTS ARE COVERED BY TRADEMARK, PATENT, DESIGN AND COPYRIGHT PROTECTION

MOBILE ONE MOBILE ANTENNA

26.5 ~ 30 MHz DX340 /DX360

MOBI-DICKSTICK

FEATURES

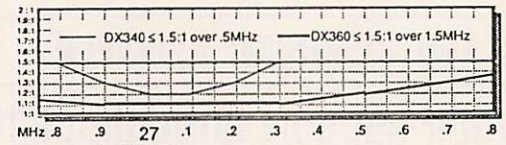
NOW THE VERSATILITY OF AN ADJUSTABLE TIP ANTENNA HAS BEEN COMBINED WITH THE RUGGEDNESS OF A HEAVY-DUTY MOBILE HELICAL.

THE DX3 RANGE HAS BEEN CONSTRUCTED FOR EXTRA BROADBAND COVERAGE OF THE WHOLE 11 MTR BAND AND INCORPORATES A READJUSTABLE FEATURE THAT MEANS THIS PRODUCT CAN BE MOVED FROM VEHICLE TO VEHICLE AND RETUNED AS REQUIRED.

THE RADIATOR HAS BEEN COATED WITH A RUGGED POLYOLEFIN HEAT SHRINK TO PROVIDE A STRONG BUT FLEXIBLE WEATHER-RESISTANT PROTECTIVE SHEATH.

A BANDWIDTH OF 1.5 MHz FOR THE 60" MODEL, AND .5 MHz FOR THE 40" MODEL CAN BE OBTAINED FROM THESE PRODUCTS WHEN CENTRE ROOF OR MIRROR MOUNTED ON MOST TYPES OF VEHICLES.

VSWR



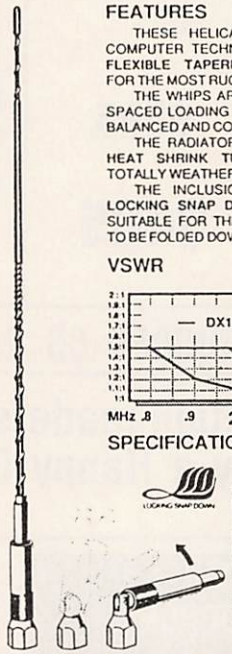
SPECIFICATIONS

TYPE	HELICALLY WOUND MONO POLE
ORDERCODE	DX340 / DX360
LENGTH	40" (1.05m) / 60" (1.53m)
TUNING	ADJUSTABLE TIP
FREQUENCY	26.5 ~ 30 MHz
IMPEDANCE	50 OHMS
MAX.POWER	40" ~ 50 W / 60" ~100W
TERMINATION	5/16" x 26 TPI - FEMALE
PATTERN	OMNI DIRECTIONAL VERTICAL
APPLICATION	ROOF RACK OR MIRROR MOUNT
VSWR	≤ 1.5:1 OVER .5 MHz ~ 40"
VSWR	≤ 1.5:1 OVER 1.5 MHz ~ 60"

MOBILE ONE PRODUCTS ARE COVERED BY TRADEMARK, PATENT, DESIGN AND COPYRIGHT PROTECTION

MOBILE ONE MOBILE ANTENNA

26.5 ~ 29 MHz DX136LSD / 48 / 60



FEATURES

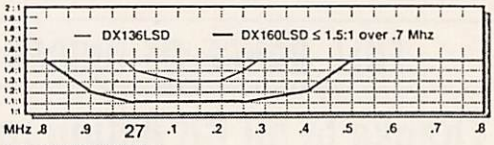
THESE HELICALLY WOUND WHIPS INCORPORATE THE LATEST COMPUTER TECHNOLOGY IN HELIX DESIGN AND ARE WOUND ON A FLEXIBLE TAPERED FIBREGLASS FORMER SPECIALLY DESIGNED FOR THE MOST RUGGED AND DEMANDING ENVIRONMAENT.

THE WHIPS ARE WOUND WITH COPPER WIRE THAT SPIRALS TO A SPACED LOADING COIL SO AS TO MAXIMISE SIGNAL AND PRODUCE A BALANCED AND CONSISTANT RADIATION PATTERN.

THE RADIATOR HAS BEEN COATED WITH A RUGGED POLYOLEFIN HEAT SHRINK TUBING TO PROVIDE A STRONG, FLEXIBLE AND TOTALLY WEATHER-RESISTANT PROTECTIVE SHEATH.

THE INCLUSION OF THE EXCLUSIVE MOBILE ONE DESIGNED LOCKING SNAP DOWN FEATURE MAKES THIS VERSATILE PRODUCT SUITABLE FOR THE MANY APPLICATIONS WERE THE ANTENNA NEEDS TO BE FOLDED DOWN TO CLEAR OVERHEAD OBSTRUCTIONS.

VSWR



SPECIFICATIONS

TYPE	MONO POLE HELICAL WHIP
ORDERCODE	DX136LSD / DX148LSD / DX160LSD
LENGTH	36" (93cm) / 48" (1.22m) / 60" (1.53m)
TUNING	CUT TO TUNE
FREQUENCY	26.5 ~ 29 MHz
IMPEDANCE	50 OHMS
MAX.POWER	50 WATTS
TERMINATION	5/16" x 26 TPI - Female
PATTERN	OMNI DIRECTIONAL VERTICAL
APPLICATION	ROOF,GUTTER OR COWL MOUNT
VSWR	≤ 1.5:1 over .7MHz for 60"

MOBILE ONE PRODUCTS ARE COVERED BY TRADEMARK, PATENT, DESIGN AND COPYRIGHT PROTECTION

MOBILE ONE MOBILE ANTENNA

26.5 ~ 29 MHz DX125SH / 40 / 60

SUPERHELICAL

FEATURES

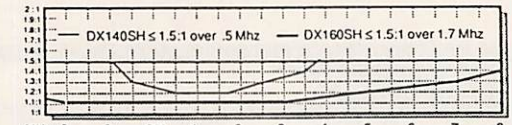
THESE SPECIAL WHIPS INCORPORATE THE LATEST COMPUTER TECHNOLOGY IN CONTINUOUS HELICAL LOADING AND ARE WOUND ON A FLEXIBLE TAPERED FIBREGLASS FORMER SPECIFICALLY DESIGNED TO WITHSTAND THE RUGGED AND HARSH AUSTRALIAN ENVIRONMENT.

MODEL **DX125SH** AND MODEL DX140SH HAVE BEEN WOUND WITH THE EXCLUSIVE MOBILE ONE SPACED TRIAXIAL SPIROID WINDING THAT PRODUCES A CONTINUOUS FIELD PATTERN SPECIALLY TAILORED FOR THESE LOW PROFILE ANTENNAE.

MODEL **DX160SH** HAS BEEN WOUND WITH A CONSTANT TURN WINDING WHICH EXIBITS THE SAME RADIATION PATTERN AS A FULL SIZE QUARTER WAVE WHIP, YET IT IS ONLY 60" (1.53m) LONG !

ALL SUPERHELICAL ANTENNAE ARE COATED WITH TOUGH WEARING POLYOLEFIN HEAT SHRINK TUBING FOR TOTAL WEATHER PROTECTION.

VSWR



SPECIFICATIONS

TYPE	MONO POLE HELICAL WHIP
ORDERCODE	DX125SH / DX140SH / DX160SH
LENGTH	25" (.9m) / 40" (1m) / 60" (1.53cm)
TUNING	CUT TO TUNE
FREQUENCY	26.5 ~ 29 MHz
IMPEDANCE	50 OHMS
MAX.POWER	50 WATTS
TERMINATION	5/16" x 26 TPI - Female
PATTERN	OMNI DIRECTIONAL VERTICAL
APPLICATION	ROOF or GUTTER MOUNT
VSWR	≤ 1.5:1 over 1.7MHz for 60"

DX160SH

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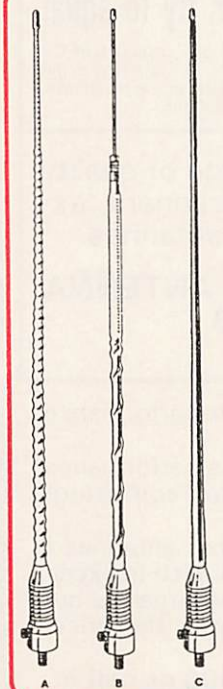
MOBILE ONE S.A.M.



SPRING ASSEMBLY MOUNT

PATENT PENDING 1985 - PH2268
DESIGN REG. PENDING - 1644-85

This Heavy Duty Base has been designed to fulfil the requirement for a solid yet light duty mounting assembly to support a wide selection of mobile antennae, that are normally subject to continual abuse as would be found in such applications as on trucks and four wheel drive off-road vehicles.

Construction is of high impact polycarbonate and all parts have been suspended in this material by an injection moulding process, subsequently all internal workings are fully protected from the ingress of moisture, dust and dirt.

Termination is provided by a Mil-Spec SO239 Connector protruding from the central core of the assembly.

The external mounting bolts, as with the mounting hardware have been plated with a special marine grade nickel-cadmium finish.

Mounting is provided by 1/2" whitworth brass bolts and includes a lock washer, star washer and locking nut, so as to prevent the assembly from coming loose due to vibration and shock.

SUPER SPRING ANTENNAS

DX270SS - "SKIPWHIP" - DRAWING A
With Super Spring base assembly, 72" (1.83mtr)
Constant turn 1/4 wave Whip ~ 500 watts
(Ideal for Bumper Bar or Bull Bar Mount)

DX560SS - "MONSTER STICK" - DRAWING B
With Super Spring base assembly, 60" (1.53mtr)
Heavy Duty Adjustable Tip ~ 250 watts
(Ideal for Roof Rack or Bull Bar Mounting)

DX350SS - "MOBI-DICKSTICK"
With Super Spring base assembly, 50" (1.27mtr)
Light Duty Adjustable Tip ~ 100 watts
(Ideal for Roof Rack or Mirror Bracket Mounting)

DX9AS - "SKYSCRAPER" - DRAWING C
With Super Heavy Duty Base Assembly, 100" (2.54mtr)
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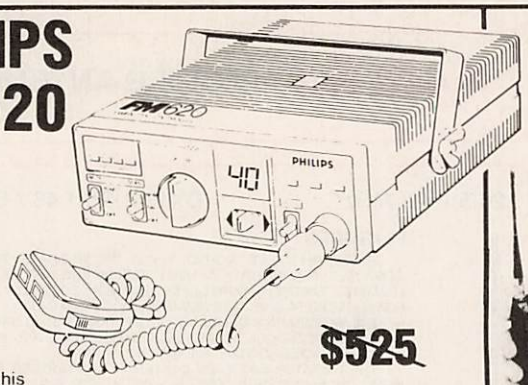

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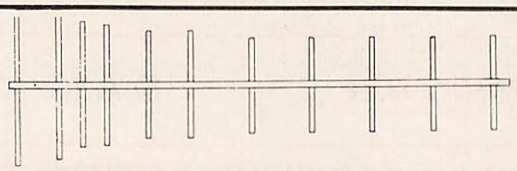

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NEWCOMERS START HERE

Welcome to CB Action magazine — the only regular CB publication in Australia and also the oldest, having been first published in 1977.

CB is a form of radio communication which is popular around the world, however, unlike amateur radio, it is not necesary to pass an examination to go on air.

All that is needed is a licence and the equipment.

CB Action, though, is a little more than just CB. While CB is the backbone of the magazine, it also has reports and reviews on scanners, antennas, shortwave radios and other areas of general interest to radio communicators and listeners.

In the course of reading the magazine (and on air) it is probable that newcomers will encounter words which mean nothing to them.

This short introduction is to help these readers understand CB terminology and its application.

It should be stated right now that ***there is no special CB language.***

Many newcomers believe that they require a lecture on the basics of CB language before they can operate on air.

This is simply incorrect.

While some stations use esoteric CB jargon, all Australian CBers understand English and this is all you need to go on air.

A half hour spent listening before going on air for the first time will be time well spent as you will hear how to initiate a contact and how pass the conversation back to the other station and, really, that's about all there is to it.

Even so, while it is not essential that you know and understand some of the various abbreviations used and/or the amateur 'Q' code, it can be helpful to you.

That is what this introduction is all about.

One of the first things you will hear is a ***QSO.***

A QSO is simply a contact with another station.

It derives from the amateur radio operator's 'Q' code — a form of abbreviation used by amateurs when sending ***CW*** *(continuous wave transmission) which is simply another way of saying morse code.*

Morse code is not used in CB, however, a number of 'Q' code abbreviations are . . .

A ***QSL*** *is a card sent from one station to another confirming that these stations have been in radio contact. It is not sent after every contact, but, is uaully exchanged after a* ***DX*** *contact.*

DX means long distance, usually overseas but often just interstate. If the station to which you are talking asks whether you QSL the operator is asking whether you will send him a QSL card to confirm the contact.

A ***QTH*** *is the 'Q' code for location so, if you're asked "what's your QTH?", the station is asking where your station is located. It's just as easy to ask in plain English, but, it adds a bit of glamour if you say QTH instead.*

You'll hear many stations talking about ***SWR*** *(usually pronounces swer — which is incorrect — it is SWR spoken as letters) and this stands for* ***S****tanding* ***W****ave* ***R****atio. This is essentially a measure of the antenna's effectiveness and is read off an* ***SWR meter.*** *You will learn what SWR is from this magazine or from a CB store.*

When you hear a station calling ***CQ CQ*** *it means that he is looking for a contact with another station. CQ means 'seek you' while* ***CQDX CQDX*** *is different (seek you long distance) in that the station only wants a long distance contact — not a local one.*

AM *stands for amplitude modulation while* ***SSB*** *stands for single sideband. If you have an AM only rig it's nice for everyone if you stay on the lower channels and, conversely, if you are using SSB you should restrict your activity to the upper channels.*

QSB *means that the signal has a tendency to fade — that is, it goes from strong to weak and back to strong again, sometimes over a period of seconds and other times over a period of minutes.*

It is not a fault of the station, but, of atmospheric conditions. If a station says there is QSB on your signal it means that your signal is fading and when this occurs it is best to keep your ***OVER*** *short or you are likely to lose the other station while you're talking.*

SKIP *is essentially the same as DX — if the skip 'is running' it means that there are interstate and/or overseas stations being heard.*

BEAM, YAGI and ARRAY *all mean much the same. They mean that the station is using an antenna system which effectively (and legally) increases the restricted power output of the CB rig and can be pointed at the other station for improved communication.*

A ***ROTATOR*** *is used to turn a beam, Yagi or array. Incidentally, YAGI is spelt with a capital Y as Yagi is the name of the inventor of the beam.*

LINEAR, BOOTS, AFTER-BURNER, LITTLE HELPER, etc *mean that the station is using illegal equipment to increase the power output and will eventually receive a call from* ***DoTaC.***

DoTaC is used in this magazine as an abbreviation for the Department of Transport and Communications — the authority charged with the regulations of CB radio.

A ***POWER MIKE*** *is an after-market accessory which can also improve your station's 'talk power'. Whether or not they are legal is open to question, but, they probably aren't.*

QRM *is when another station is making it difficult to hear due to being too close to your own station, having a rig in poor condition, running illegal power, etc.*

QRN, *however, is noise made by atmospheric conditions or, more likely, static caused by poorly installed electrical power lines out in the street.*

A ***SWL*** *is a* ***S****hort* ***W****ave* ***L****istener but an* ***XYL*** *is usually the wife — an ex-young lady.* ***YL*** *is of course young lady and a* ***DOUBLE BUBBLE*** *is a police vehicle.*

GOOD BUDDY *is a somewhat derogatory term applied to operators who still use American style CB jargon such as, "what's your 10-20?" or "that's a big 10-4".*

This 10 code originated in America, but, is now rarely used as it indicates that the operator has what can be best termed a 'juvenile brain'.

A ***BREAKER*** *is an operator who wants to get into an existing conversation and there's nothing wrong with* ***BREAKING*** *providing that you only call in the pause between overs.*

If you break between overs one of the stations will probably say ***ACKNOWLEDGE THE BREAKER*** *which means that you have been heard and will be invited to join in when the stations are ready — in other words standby and don't keep shouting.*

An ***ALLIGATOR*** *is another derogatory name which is applied to an operator who talks too much but doesn't listen — in short, all mouth and no ears.*

SANDBAGGING *means to listen to a conversation but not join in yourself.*

A ***DUMMY LOAD*** *is a device which should be used when testing or tuning your rig. It can be purchased from any CB store and should be a must in your list of station equipment.*

UHF *stands for* ***U****ltra* ***H****igh* ***F****requency and is the 477 MHz CB service.*

LONGPATH *means that you are pointing away from a station you are speaking with rather than* ***SHORTPATH*** *which of course means the opposite.*

Different atmospheric conditions mean that at certain times you can communicate with (usually overseas) stations by sending your signal right around the world rather than by the most direct path.

An operator who works out of the legal channel frequencies or runs illegal equipment is referred to as a ***PIRATE.***

An ***ATU*** *stands for an* ***A****ntenna* ***T****uning* ***U****nit which is used to tune your antenna to a good match with your rig if the SWR is a little too high.*

It won't cure any major SWR problems, but, it can adjust a slightly high SWR reading to a 1:1 match with the transceiver.

If you receive a visit from the ***RIs*** *you're probably in trouble for causing* ***TVI — T****ele-****V****ision* ***I****nterference — or — BCI — B****road-****C****ast* ***I****nterference. RIs stand for* ***R****adio* ***I****nspector — the gentlemen from DoTaC who call around if there are any complaints about your station.*

RIs are also often called ***RED INDIANS.***

COAX *stands for coaxial cable, the link between your rig and the antenna while a* ***WHIP*** *is not something wielded by a leather-clad lady but is rather a generic term for mobile antennae.*

A ***REPEATER*** *relays a UHF CB signal from one point to another so giving much greater range of communication and a repeater list is published in every second issue of this magazine.*

After all of the above we reiterate — it is not necessary to learn CB jargon to go on air. Sure it helps, but, it will all come in time — for now though just use commonsense English and if you don't understand something don't be afraid to ask — remember everyone you hear also had a first time on air.

We hope you enjoy CB and CB Action.

NEW PRODUCT REPORT

REVEX W560 SWR/PWR METER

UHF CB enthusiasts in particular will be aware that there has been a drought in the test equipment market for the past few years, for a good quality, reasonably-priced VSWR meter. GME ELECTROPHONE has introduced a new item to its product range in the form of the REVEX W560 SWR and power meter.

While this new addition may not be the perfect answer for the 'budget' meter hopefuls, it is certainly a good grade instrument at an almost reasonable cost — taking into account that the Oz dollar is still relatively weak against the high powered Japanese yen. As with almost all Japanese products of recent times the styling, workmanship and component quality is excellent making it very difficult to be critical about any of the mechanical aspects.

A wide frequency measurement range is achieved by the use of two VSWR sensors, which are accessed by two pairs of UHF-style receptacles which are brought into operation by the use of a central-mounted changeover switch on the back panel.

The low frequency sensor covers the frequency range from 1.8MHz to 160MHz while the second sensor range overlaps and indicates 140MHz to 525 MHz — more than adequate for UHF CB.

The power indications are in three switched ranges — 3 watts, 20 watts and a high range of 200 watts.

The meter scale is well calibrated and very legible and offers an unusual bonus feature on the SWR scale. You may or may not know that the readings on 'simple' type SWR meters are distorted by the power loss of some electrical components when attempting to read accurate SWR at very low power levels. This is further compounded by the fact that when you already have a low SWR on your antenna, the low level reflected power the meter is trying to read is even further reduced by the internal component losses of the meter circuit itself.

This REVEX instrument has attempted to improve the accuracy of low level reading errors by the addition of a split scale with the second scale used to read SWR at low power levels. The result may not be perfect but at least the problem has been addressed seriously.

The instruction manual is written in two languages, Japanese (we think) and English. The English version is adequate and understandable, however, it lacks any type of basic explanation for beginners who need to know what the hell SWR is all about in the first place! The document is well supported with explanatory diagrams so that even if you don't know what you are doing, you will at least get readings that will mean something to somebody?

If you are a 27MHz-only CBer and don't need the extended frequency range this instrument offers, don't 'turn-off' yet because this little black meter offers an exciting extra feature just for you — if you are into SSB.

The calibration knob on the upper right of the front panel incorporates a push/pull switch which instantly turns your average power readings into Peak Envelope Power (PEP) information . . . how's that for a new one? This is the first time we have seen an instrument offering this valuable feature channelled into the CB market.

The instruction manual tells us that 'N' type connectors are used for the high frequency range on the meter — they sure look like SO-239s to us.

Operationally the unit performs nicely and all readings were confirmed against our Hewlett Packard power meter and directional couplers with acceptable results.

As with most 'in-line' VSWR/Power meters, the SWR must be fairly low for the indicated power readings to be anywhere near accurate.

SUMMARY

If you are in the market for a good quality SWR/Power meter that offers a wide frequency range, with more than the usual features, you might do well to stop and consider spending a few more dollars than you expected. After all, the REVEX W560 is much more than a flimsy toy and with a little care the instrument should still be giving you good service in 20 years time.

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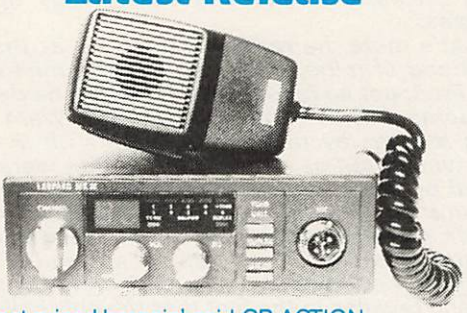

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EAGLE

DROPPINGS

Following the quietness and total absence of drama which always goes hand in hand with any prolonged absence of Fred, it came as something of a nasty shock to the system to once again start receiving those dreaded phone calls.

It's not that the calls themselves are invariably full of drama, it's just that Fred's metabolism doesn't work the same way as with most other people, and more likely than not the call will be made at 2 or 3 AM.

Nor does it matter how many times you point out that you'd prefer to sleep rather than talk — Fred agrees wholeheartedly, promises to only 'phone during business hours, and then hangs up full of apologies.

What's more, he really means it — at the time.

A friend of mine, who also has the misfortune to know Fred, got so fed up with it all that he decided to take some positive steps. He didn't want to hurt Fred's feelings by telling him to p...s off in quite as many words, but as all the gentle hints were politely ignored by Fred, my friend contacted the gentleman who runs the 'phone service and, by some means or another, managed to get himself an unlisted number.

Naturally enough, Fred was not advised of the new and unlisted number and for a period of about a week my friend revelled in the fact that the only calls he was receiving came from people he wanted to talk with — and, more importantly, they came during business hours — not in the wee small hours.

Having not heard from Fred for a week, and having just started to catch up on his sleep once again, my friend's AM slumbers were rudely distrubed by a 3.30 AM pounding on the front door. Sure enough, it was Fred — unable to get aywhere on the 'phone — he had decided to call around in person.

"Pack of bloody idiots, mate," he explained.

"I've been trying to 'phone you for the last bloody two weeks and all the idiot bloody exchange can say is that you haven't got the bloody 'phone on or something."

"Anyway, seeing as how I couldn't get you on the land-line and haven't heard you on air for a few weeks, figured I should call around and let you know that they've stuffed up your 'phone down at the exchange and none of your mates can get in touch with you."

My friend pointed out to Fred that the time was fast approaching 4 AM and, while he appreciated Fred's advice as regards the stuffed up 'phone, he would dearly like to get some sleep.

"No problem old son, I was just heading home myself," and, with that, Fred vanished quietly into the darkness.

Quietly blessing himself for the fact that Fred had completely forgotten to get the new 'phone number, my friend headed back to bed and generally lost interest in the entire situation.

Suddenly he had Fred on the 'phone (although at least it was at the sensible hour, for Fred that is, of only a few minutes past midnight).

Cursing himself for having ignored the obvious, that Fred had checked out the new number on the 'phone as he passed through, my friend enquired what the problem was this time.

"No problem, old son, just thought that I'd let you know I've done the right thing and sorted out the bloody mess that the exchange was causing."

Fearing the worst, but still hoping against hope that he was wrong, my friend (Jim is his name so for Chrissake let's call him that) asked Fred precisely what he was getting at.

In his heart he knew that Fred had created merry hell with someone at the exchange — probably called them for all sorts of "bloody idiots" and, in general, had created sufficient havoc that Jim could expect a call from them in the very near future.

Well, if you've got mates like Fred you've got to expect problems, at least that's what he was consoling himself with . . .

"OK Fred, just who did you abuse and what were the results?" requested Jim.

"Aw come off it mate, I haven't abused anyone — in fact quite the opposite — I've been remarkably nice to everyone since I got back from the States and even the blokes from P & T are talking to me at the minute," was the unhappy rejolner from a somewhat hurt Fred.

"Alright, I'll wear that Fred — even The Man spoke quite pleasantly of you the other day so I accept that you've changed your ways — but what's this business about sorting out the exchange for me?"

"Aw, it wasn't a real problem mate.

"I saw you had a new 'phone number the other night when I called in so I figured that the poor dills at the exchange had got it all fouled up when they told me you didn't have a 'phone anymore and I simply sorted things out."

"Yeh Fred, but just how did you sort things out?"

"Dead easy mate, I 'phoned the exchange and told 'em you definitely had a 'phone on — jeez, I even gave 'em the number but then the old cow I was speaking to got ropey and told me to mind my own business — then she just hung up.

"Well, I figured if they've got things that mucked up then the best thing I can do is to let your mates know so I hopped onto the call channel, raised a few blokes that I know speak to you a lot and let 'em have the new number.

"And that's what you call smart thinking mate, to hell with the exchange, now everyone's got your number and no more problems."

Jim couldn't say much at all, he muttered some sort of thanks to Fred for his assistance and immediately 'phoned the exchange to get it changed once again.

Regretfully, the exchange by this stage had more than had enough of the entire deal — and in particular Fred.

"I'm extremely sorry sir, but candidly, we've had more than enough strife with this number to last us for a year. If you still require an unlisted number you will have to take it up with someone else as there's no way that we can change it now."

. . . and that's where it currently rests.

Jim is once again receiving regular early morning calls from Fred — plus a dozen or so people that he's never even heard of, let alone knows and the classic of the lot was that Fred was now recommending him as an expert technician who could change an 18 channel rig into a 60 channel rig in about 30 minutes flat and all for a nominal fee.

What's more, Fred was making this announcement on the call channel to anyone who bothered to ask . . . now it's Jim who is furiously trying to contact "The Man" to explain that it's all bloody nonsense and he wouldn't modify a rig at any price.

If you think you've got it tough spare a thought for the . . .

JAPANESE CBer

If you're a DX operator you could well be forgiven for thinking that Japan has wall-to-wall CBers all deadset on DXing the world.

On both the legal 40 channels and not so legal higher channels, there seem to be a million or more Japanese CBers at any given time, however, the true situation is far from what it might seem.

Hideki Fujii is a Japanese operator and he sent us a report on the Japanese CB scene.

While his report might have lost something in our translation, what he has to say will be of interest to all Australian CBers.

For openers there are only eight legal CB channels and only AM mode can be used.

The maximum allowable power is only 0.5w (500mW) and you are not permitted to use an external antenna — yes, only walkie-talkie type CB rigs are approved for Japanese use.

After 'the big one' (WW2 for you youngsters), the Japanese Government assigned HF frequencies on 8kHz steps and this includes the 11 metre band where the majority of frequencies are allocated to marine operation.

The legal CB frequences are channel 1 — 26.968, 2 — 26.976, 3 — 27.040, 4 — 27.080, 5 — 27.088, 6 — 27.112, 7 — 27.120 and channel 8 — 27.144MHz.

There is no such thing as a 'genuine CB operator' with most people on these frequencies being in the road and building construction industry, security guards and similar. Channel 8 is the acknowledged call channel, but, naturally enough it is primarily used by operators in the various industries rather than dedicated CBers.

So much for legal operation — what about illegal?

Yep, that's right — the operators that the Oz stations work are all illegal and according to Hideki (callsign is 25-AR-001) most are also mobile.

The reason they are mobile is again the fact that external antennas are illegal (not just beam arrays but even verticals) so the operators run mobile using 40, 80 or 120 channel AM/SSB rigs plus linears or converted amateur rigs running anything from 100 watts to a kilowatt courtesy of a linear.

Legal QRP CB is not allowed when running mobile (again because of the law governing external antennas) so the fair-dinkum CBer figures that he might just as well run totally illegal and enjoy it while he can.

From the mid-70s the number of illegal operators has continued to increase at such a rate that the government finally introduced UHF CB on the 900MHz band and Hideki believes that over

Hideki monitors 27.455 USB.

The Postal and Telecommunications Department of Japan also monitors Hideki and he has received a couple of warnings about his illegal operations, however, like most DXers he continues to operate on a regular basis and hopes that the Feds don't catch up with him.

In short, all those Japanese stations that you hear on 11 metres are strictly illegal whether they are within our legal 40 channels or well above them.

Given their legal allocation of eight channels and AM only with minimal power, it is little wonder that so many choose to operate as pirates.

. . . . and you thought that the Australian regulations were tough . . . !

BOOKLET FOR BEGINNERS

We receive many 'phone calls each day asking questions about CB.

What is the difference between an AM rig and an SSB one?

How far can I transmit?

Do I need to know a 'special CB language?'

There are dozens of various questions which newcomers want to know when they are either thinking about buying a rig or have just purchased one.

Until now there hasn't been anything on the market which we could recommend, however, as of last month the perfect booklet has become available.

Compiled by Des Greenham and copyright by JUST Communications, the booklet is titled 'What is CB Radio?' and retails at $2.95.

It's a small 23 pager, but it covers virtually every topic a newcomer should know about CB radio.

It does not pretend to be technical nor dwell at length on any particular topic, however, it provides sufficient information for the newcomer to know what he should look for when buying a rig and antenna.

We suggest that you 'phone JUST Communications on (03) 873 3710 to find out the location of your closest stockist.

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Russell Bryant reviews a top quality rig . . .

SAIKO SC8000 SCANNER

The latest Saiko to come to Australia has been manufactured with the mobile user firmly in mind. RUSSELL BRYANT, CB Action's scanner columnist, reviews the Saiko SC8000 scanning receiver. . . .

When the learned designers of scanning radio receivers sit down and apply their skills to the birth of a new radio, the end result is usually a combination of a mobile/base scanner in the one package.

Seldom do we see a scanner designed with a single-purpose role. After nearly 10 years since the last, a mobile-only scanner is now available to hobbyists. The Saiko SC8000 is intended for use in today's automobiles. Its size, ease of operation and general features make it ideal for the travelling scanner user.

Measuring 22cm long, 15cm wide and 5cm high, the radio is small enough to be mounted in the car without occupying a seat of its own. With the exception of the angled front panel, the Saiko comes in a basic black case, which is as tough a protection as you will find. In other words, it is thick. Finished in matt ripple paint it adds a professional look to the SC8000.

The soft chrome control panel complements the overall appearance of the rig. On the left of the panel are the number keys, to their right the full function LCD display and immediately below the function keys. Each function is color coded, for example the number keys are black; the enter key is powder blue; manual, limit, lockout, delay and scan are beige; and mode key for selecting AM/FM is red, and the up and down search keys are orange. Saiko has opted for push-buttons, rather than pressure-type pads.

The only other controls to worry about are the ON/OFF volume dial and squelch control. From the moment you turn it on the Saiko screams mobile user. The LCD is not only side illuminated but it also has bottom lights which provide more than enough light leaving no doubt as to the frequency being scanned or function performed.

50 CHANNEL MEMORY

The SC8000 has a 50-channel memory and can receive frequencies in the following ranges: 26-32 MHZ, 68-90 MHZ, 118-180 MHZ and 380-512 MHZ.

The Saiko has selectable AM or FM. I do not know of any other mobile scanner past or present that has that feature.

Programming the 50 channels is again designed with the mobile user in mind and doesn't require a complicated series of programming steps. Simply select the channel to be programmed either by manually stepping to it or by pressing the channel number and then manually entering the desired frequency onto the display and pressing enter.

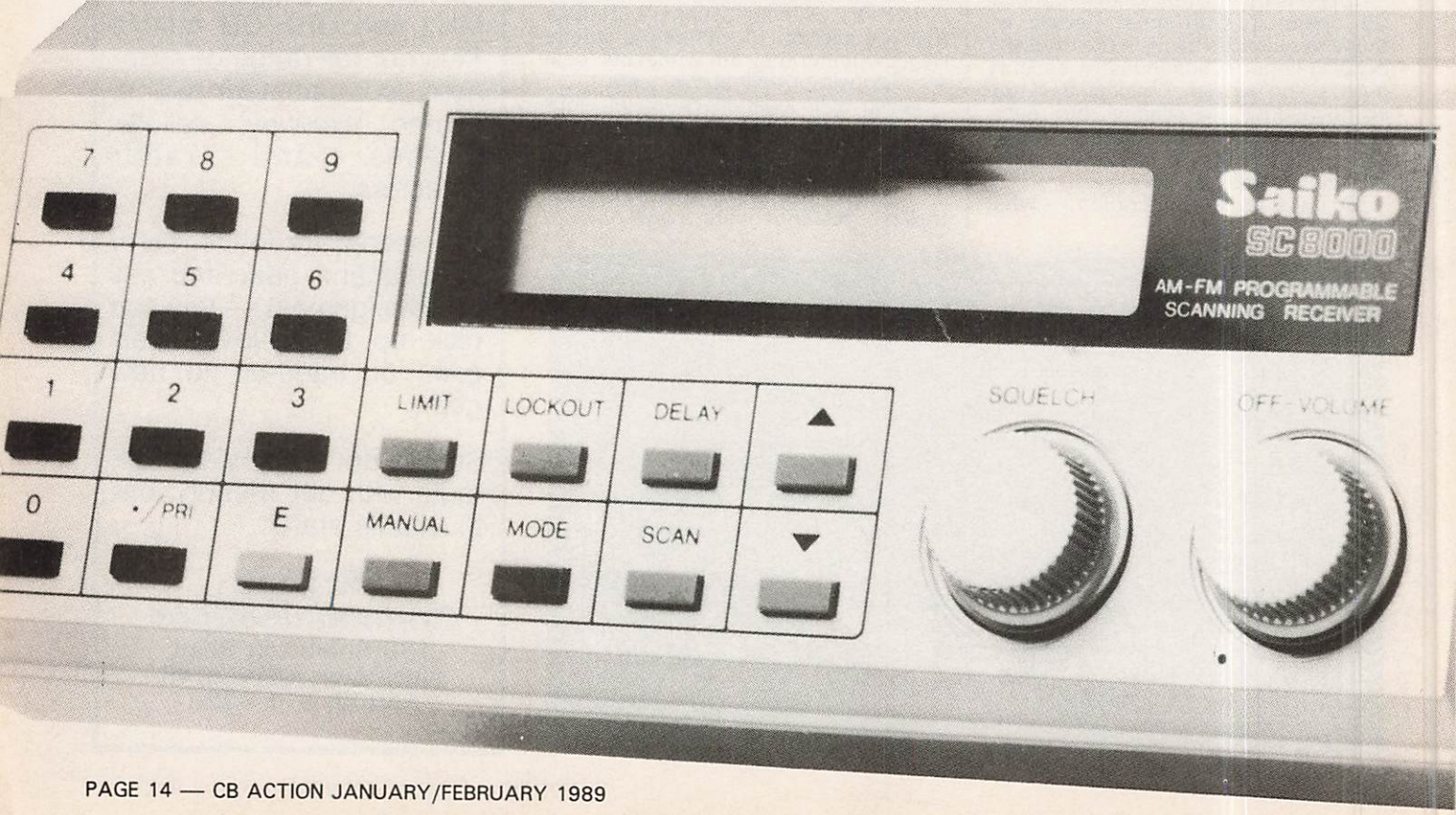
Once the frequency has been entered into the memory, you can then decide if AM or FM is needed as well as delay or lockout or priority.

BETTER NOISE FILTERING

The test Saiko did not come with a handbook so I cannot quote the specs, however I can tell you the SC8000 comes with improved noise filtering for mobile use.

Unfortunately Saiko has fitted the SC8000 with the Motorola antenna socket. Not my favorite choice for connecting antennae to scanners. That, by the way, is only one of two criticisms of the SC8000, the second is the mounting bracket.

If you have the manual dexterity of a Yak such as I do, then the fitting of the two-piece bracket may prove diffi-



cult (long live the one-piece). Apart from the Motorola socket, the rear panel is rather Spartan, a coaxial power connector, for the 13.8 VDC required to fire it up and an extension speaker jack are the only other things to be found thereon.

Although the Saiko was designed as a mobile scanner, that doesn't mean it cannot be used as a base unit.

It's appearance is such that it would look equally at home in the shack as well as in the automobile. Supplied with the SC8000 is a handbook, power cord, various nuts, bolts and screws for mounting the rig, a telescoping whip for non-mobile use and the aforementioned mounting bracket. If you decide the Saiko is too good for the car and decide to use it as a base scanner, then I suggest purchasing a packet of adhesive rubber feet and apply them to the underneath to prevent it slipping.

The Saiko's speaker is mounted on the lower portion of the case, in an effort to keep bulk to a minimum. Wound up to full blast, the 7.5cm speaker delivers clean, crisp and loud audio with little distortion. The speaker is also the outlet for the beep that acknowledges depression of a key.

With my stock standard test frequencies programmed in, the SC8000 was connected to my SPR Scantenna and put through its paces.

Sensitivity proved to be excellent as did image rejection, the latter is by the prudent use of a 21.4 MHz IF (intermediate frequency) and advanced filtering.

The Saiko scans the 50 channels in about five seconds, giving it a scan rate of 10 channels per second. The lack of a handbook meant I was unable to work out how to alter the channel stepping in the search function and whether the LCD display lights are capable of being switched off. I am sure the instruction book describes the SC8000 functions adequately.

The two-second delay is programmed in for each channel as you desire, and the priority channel (channel 1) is sampled every few seconds for activity. When the search limits are set, the Saiko allocates channel 51 to that function, so there is no doubt the radio is searching.

NON VOLATILE MEMORY BACKUP

The SC8000 employs a non-volatile memory back-up, simply put, no batteries are used to keep the frequencies stored in the memory channels. Instead an internal capacitor of large (electrical) dimensions is installed on the PC board. The memory life once the external power is disconnected is approximately four to five hours.

Probably the best way to test a mobile scanner is in the car. With the Saiko temporarily installed in my 4WD I set forth driving around the countryside. I could not fault the unit at all.

The SC8000 performed as expected, in fact it seemed just that little better than the combination mobile/base scanners.

If you are looking for a mobile scanner or a second rig for the shack, or even purchasing your first scanner then seek out the Saiko SC8000. Its ease of operation, value for money (recommended retail is $449) and features make it a winner.

Imark Australia is importing the Saiko, so it is thanks to Mark Iverson of Imark's NSW office for the loan of the test rig. Now, how can I talk my wife into allowing me to buy one?

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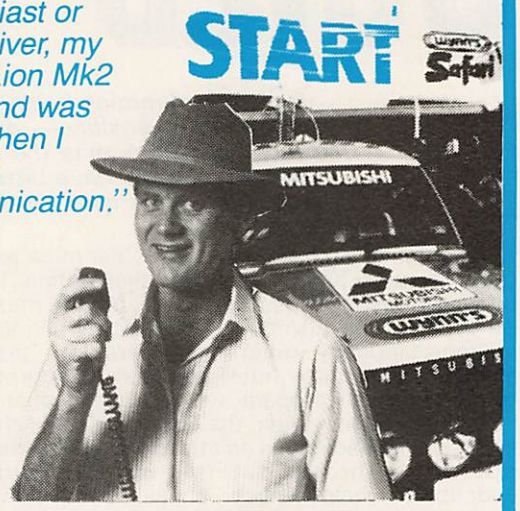

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BUILD A DF LOOP

Building a direction finding loop is not at all difficult. You should be careful, however, that you use it sensibly — don't become a vigilante — if you've got problems find the offender and then hand the matter over to DoTaC.

Many operators have bitten off considerably more than they could chew by taking matters into their own hands.

At some time or another every CBer must have wanted to try his or her hand at DFing another station. There could be many reasons for such a desire, but the most common by far would have to be the occasion when an unknown station, flippantly referred to here, as 'the nuisance element', continually interferes with an operator's ability to communicate properly with another station.

Whatever the reason, the ability to successfully 'home-in' on a signal source is an attractive goal to thousands of operators throughout the world. Readers have undoubtedly heard much 'on air' discussion about DF loops and how they exhibit an almost magic property for direction finding, however, most CBers have never actually seen such a loop, far less used one.

DF loops are in no way magic, but they are a useful asset in locating a source of a RF signal — well most of the time anyway.

Unfortunately, the mystery of the unknown brings forth exaggeration of the basic facts, and before one becomes enlightened to the real virtues of a subject, distorted rumours often conceal the truth.

Building a directional loop antenna is quite a simple task and well within the constructional prowess of nearly all CBers. But, before we look at a practical design, let's examine the concept and crush a few myths about these antennas.

While DF loops can offer a distinct advantage over conventional antennas for direction finding purposes, they are definitely not the be-all end-all in directional antenna technology — just a compromise between economy and convenience.

Professional direction finding equipment is usually very sophisticated and costs many kilo-bucks, but at some frequencies — 27MHz for example — the loop antenna is quite effective and its ability to establish an accurate bearing on an unknown radio source is rivalled by little else.

DF loops for 27MHz are essentially small, compact antennas whose length bears little resemblance to the familiar ring loaded verticals and ground planes so commonly used for CB communications. In fact, they are so small by comparison with conventional antennas that one might be inclined to ask how such a limited package could perform the task. There is no specific recommended shape or length for a practical DF loop for 27MHz other than some form of symmetric loop is devised, and that the total length of the loop is less than 0.1 of the wavelength at the frequency which it is to be used.

The DF loop is also one of the few practical antennas one can build which is not designed for transmitting. This is because the radiation resistance of a small loop is quite low and when fed with power, the loop's electrical resistance is high by comparison therefore causing most of the power to be consumed with the conductor itself with only a small portion generally radiated as an RF field.

Because the loop dimension is small it is desirable to resonate the circuit to suit the frequency being received. This can be done by the addition of a small variable capacitor connected across the loop ends. This forms the basis of a simple parallel tuned circuit and the loop becomes not an antenna in the general sense, but the inductor of a resonant tuned circuit — similar in format to the tuned circuits within your transceiver.

In practice, to make the loop perform even less like an aerial the loop conductor is usually shielded to prevent 'antenna effect' — or the property of the conductor to appear as an undefined lump of metal to your antenna terminals.

Most readers will be familiar with the directional effect of the small antenna inside 'tranny' radios designed for the broadcast band. This is the same effect we are attempting to recreate for HF CB, but instead of it being a nuisance, we wish to put the effect to good use.

A PRACTICAL DF LOOP

Building a DF loop will cost you very little in both money and time. Because the loop need only be small and we wish it to be shielded, by far the simplest means is to use a short length of co-axial cable. While RG-58 or the heavier RG-8 cables will serve adequately they are inclined to be too flexible and the shape can be easily distorted by careless use. A better alternative is to employ one of the 'hard-line' type cables normally used for 75 ohm TV feeder line.

These cable types are strong, fairly inflexible and best of all, cheap to buy from a local TV service or installation outlet. One metre of this type of cable is more than adequate and should only cost a few dollars.

Cut a length of the cable to about 0.5 metres long — 18 inches will do fine — and carefully remove insulation from each end for a length of 4cm. Strip half each exposed end to allow about 2cm of the inner conductor exposed. If you have a soldering iron, tin the exposed outer and inner conductor ends. In some TV cables the outer conductor is made from aluminium foil — in this case, connection to the outer conductor can be made using two small hose clips — the type available from hardware and automotive retailers.

Carefully measure the centre point of your cable length and make a mark. Measure about 3mm each side of the mark and make an incision through the outer insulating material so that both insulator and outer conductors are cut through. Be careful not to damage the inner dielectric insulation . . . this should remain intact as should the inner conductor.

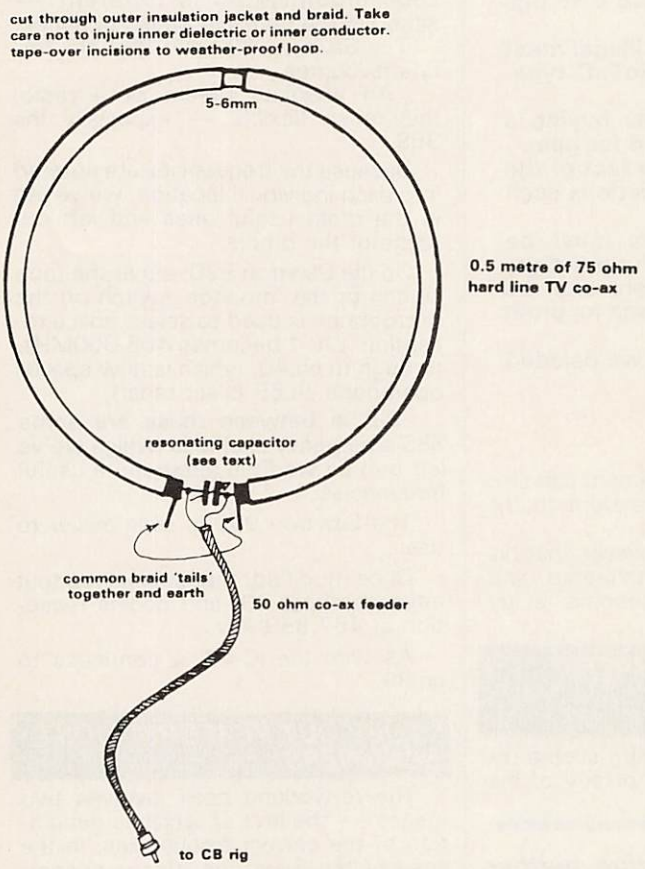
Remove the 'cut-out' section completely by slicing length ways between the two incisions. This will produce a gap of about 6mm in the outer cable shield. Tape over the cut-out section to restore the weather proofing characteristics of the cable. The cable length should be carefully bent to form a circle — a square will do — so that both halves of the loop are symmetrical about the open ends and the 'cut-out'.

The loop open ends should now be fixed firmly to a

small piece of insulating material such as matrix board or fibreglass circuit board. Any convenient method of fastening can be used and it doesn't matter if the two outer conductors 'short' because they must eventually be connected together. The inner conductor ends must remain separated from each other.

Choice of resonating capacitors is quite liberal. A small tuning capacitor from a transistor radio may be used, or a trimmer capacitor bought from an electrical retailer makes a suitable alternative. This should be connected between the two ends of the loop and soldered permanently into position. If no mounting hardware is available, a small quantity of epoxy resin — Araldite or Super Glue — can be used to cement it into place.

The final step in construction is to connect a length of your usual co-ax to the loop as shown in the diagram and the other end goes to your rig. The outer loop shield should be connected to earth separately, however, sometimes it is possible to get good results by connecting it to the feeding shield.


cut through outer insulation jacket and braid. Take care not to injure inner dielectric or inner conductor. tape-over incisions to weather-proof loop.
5-6mm
0.5 metre of 75 ohm hard line TV co-ax
resonating capacitor (see text)
common braid 'tails' together and earth
50 ohm co-ax feeder
to CB rig

This is an area for experimentation, but it should be remembered that connecting all screens together could make the loop assembly 'touch' sensitive and best results will be obtained with a proper separate earth cable.

The 'feeder' end of the loop can be enclosed in a small die-cast box which will protect and shield the connections as well as doubling as a handle when using the loop.

DFing WITH THE LOOP

There is a bit more to using a DF loop than first meets the eye. To begin, contrary to common belief, the loop should be rotated for a null in the received signal strength — not for maximum signal. This is because the 'null' point is much more pronounced than the lobe and, after all, it allows you to get closer to an unknown station without pinning your 'S' meter needle.

Most people expect the null to occur with the loop edge-ways to the signal source. This is incorrect; the null appears when the loop faces side-on to the signal source.

Some arrangement can be made for aiming the loop correctly — marks or small posts make adequate direction sights. Before you get down to DFing that nuisance source however, it will be necesssary to calibrate the loops exact null direction.

Without the addition of extra balancing complonents the loop will always be slightly 'off-centre'. In other words, the null probably won't appear exactly broadside to the plane of the loop — an electrical balance problem.

The best way to calibrate the loop 'sights' is by using a known signal source — a friend's station or some other known transmitter.

Carefully adjust the loop for a deep null and mark the bearing precisely. Carry out this test with several stations to be sure that your bearing wasn't affected by a close-by object. After you are assured the sighting is correct mark the direction permanently on the loop handle.

It pays to check the alignment from time to time just in case the loop characteristics change through use. When stations being DFed are weak, 'peak' the resonating capacitor for maximum signal strength. As you approach the station you will need to detune the trimmer for minimum signal strength. When you are very close to the unknown station, chances are that you will be unable to null the loop.

At this stage, the signal should be overpowering and you will only need to remove the cable from your rig and watch the 'S' meter for maximum reading — you should now be uncomfortably close to the mystery station.

That's about it. Just a word of warning. Don't get into trouble by biting off more than you can reasonably chew. If you are DFing for fun, enjoy the sport of 'fox-hunting'. If you are seeking a nuisance station, take down the particulars and leave the rest to the proper authorities — do not become a dreaded CB vigilante. Many have been wrong in the past and paid dearly for their mistake — so don't go adding to the prosecuted list.

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It's obviously illegal and the police are not happy that you can . . .

LISTEN TO POLICE FREQUENCIES ON YOUR UHF RIG

For some time now we have been hearing rumors about CB UHF rigs being modified to receive police transmissions.

That modifying a UHF rig to receive police frequencies is illegal must be obvious to blind Freddy as it is no longer covered by DoTaC type-approval.

However, listening to police frequencies is as simple as buying a scanner — nor is it illegal unless whatever you hear is used for gain.

So, while the police can hardly be expected to like it, the fact of the matter is that thousands of people listen to police communications each and every day of the week.

That such scanning procedures are used by criminals must be apparent to everyone, however, the law does not prohibit the practice.

Most such listeners are doing it on unmodified scanners and are completely legal unless, as we again state, what is heard is used for profit of any type.

Of recent months the rumors have become so strong that we decided to investigate them.

The following is what we learnt.

"Terry" (not his real name) is a UHF enthusiast and a keen experimenter.

Like hundreds of other 477MHz operators Terry's shack has seen a variety of rigs on the bench and he's come to know each one intimately.

He has too, because Terry modifies UHF CB radios to monitor the 468MHz police band.

Take the IC-40 for instance.

Like all Terry's radios it looks no different to any other with no give-away switches. It works like you'd expect an IC-40 to — 40 channels, duplex on 1-8.

But, dial up 41 and the radio is now receiving 467.650 MHz — police UHF channel 1.

All the way through to ch. 99, which has been specially programmed for 469.825 — the simplex special operations frequency used for slant radar traps.

CLEARLY ILLEGAL

The modification is clearly illegal.

Not for the reception of police which is no different than any scanner, but because the IC-40 has now been modified, it is no longer covered by DoTaC type-approval — which puts the operator outside his or her licence.

And under the Radio Communications Act (section 25.1), the fine for using a station in breach of the licence is a maximum of $1000.

Forfeiture of the equipment can also be recommended by the Dept to the court.

Terry is confident, however, that his modifications will be tolerated and hopes they may even become tacitly approved.

"IT'S GOOD FOR TRAFFIC REPORTS, SLANT RADAR . . . "

So who would risk using such a radio as Terry's IC-40 — or any of his other modified units?

CB Action magazine neither supports nor condemns these modifications.

They are illegal and make the user of any such modified rig open to prosecution.

"Almost all of them are decent operators who get annoyed with the ratbags on UHF or find that the band has become boring.

"Most of them already have a scanner.

"Now suddenly they've got something more interesting to listen to, plus you only need one radio in the car and one antenna.

"It's good for getting traffic reports long before they come over the commercial radio stations, good for slant radar, and it even gives the police a few extra eyes on the road for stolen cars and that sort of thing."

Terry is ready to admit that there also exists the possibility of cockatoos (or look-outs) using such a radio to avoid the police, but, this can be done with any scanner. If this was such a problem then scanners would have been taken off the market long ago (which would of course only create a black market for the equipment).

HOW DIFFICULT IS THE MODIFICATION?

Each radio has its own way of generating the frequencies for 477MHz, so each modification is different — although the principle doesn't change.

The Sawtron 990 and 999 are Terry's favourites.

"An absolute dream of a radio, they're so flexible — especially the 999.

Because the frequencies are entered into each individual location, we've put in the most useful ones and left out some of the others."

On the Sawtron 990, either the tone switch or the 'monitor' switch on the microphone is used to select police reception. Ch. 1 becomes 466.000MHz, through to ch.40, which is now special operations ch.65 (slant radar).

"But in between these are some SES emergency channels (which we've left out) so we fit in a few more useful frequencies."

The Sawtron 999 is even easier to use.

Once modified, the channel readout advances past 40, and begins reception at 467.850MHz.

As with the IC-40, it continues to ch.99.

"THEY OUT PERFORM MOST SCANNERS . . . "

The re-working itself involves two stages — the first of which is generation of the correct frequencies. In the case of the Sawtrons, this is accomplished by re-programming the EPROM (eraseable programmable read-only memory) chip which drives the radios on 477MHz.

It took Terry over a full working week to determine the correct coding (which isn't provided in the service manual) for a single channel — and a few blown EPROMs along the way.

Now it is just a matter of 're-burning' the EPROM with the new commands — plus a bit of wiring and a re-tune.

"Alignment of the radios is no great problem," says Terry.

"Most repeaters on the police band are pretty strong and in very high locations so you don't need outstanding sensitivity.

"Of course, radios don't just operate on their one little group of channels. Ch.1 is a set frequency, but the rig will go a bit below ch.1.

A good bit below it in fact.

Sure, that's no news to most CBers so most UHF rigs are tuned with 477MHz as the centre of their performance curve and, say, 5MHz on either side or ten overall."

Terry simply shifts 477MHz to the very top of the bandwidth where it still performs as it did before, but, this now allows the set to go down to 467MHz. At these frequencies most rigs can obtain a sensitivity of 0.5-0.6 microvolts, which is quite respectable.

"In fact, they'll out-perform most scanners because the UHF CB was designed as a UHF-only radio, whereas scanners have to go all over the place — some from the top end of HF through to 800MHz.

Terry is nevertheless determined that his modifications remain as close to the law as possible — in spirit, if not in fact.

"As soon as I've figured out how to get a rig to receive on 468MHz I stop and consider how it could also be made to transmit there. And then I work out how to stop it — how to inhibit that transmit function at every stage and keep the rig as a monitor only.

"You've got to keep two steps ahead of people with sticky fingers!"

"I don't want it on my conscience that people can transmit on police frequencies or even that one of my radios is floating around and someone says, "Cut wire D and you'll be on 468MHz and we can use that as our private channel."

"CB STORES ARE CARRYING OUT THE MODIFICATION — YOU'VE JUST GOT TO ASK FOR IT"

The Sawtron 990 and 999 are the mose secure of the rigs Terry has modified. He is also keen on his current Philips project which he hopes will eventually become almost a d-i-y kit for the enthusiast.

"The line that senses tx/rx also controls the frequency so if you try and tamper with it the FM320 will fall back on CB channels.

"We're looking at encasing the extra circuitry in epoxy with about a dozen wires to connect to the board and a few tracks to cut so making the channel display read from 41-80 and starting around 468.000MHz."

Another unit which can be modified is the TX470 series from Electrophone.

Although Terry is still working on a relatively foolproof transmit inhibit, he is confident that this modification will also be popular with many 470 owners.

'Terry' claims tha the TX470 series rigs are easy to modify and that the TX472D is the best of them.

"The TX-472D is even better because of the dual-watch function. You can be on a UHF CB channel and at the same time monitoring the local police channel and the slant radar frequency.

The question then is, how do people come to know of this modification and have it fitted?

Most users only find out by word-of-mouth.

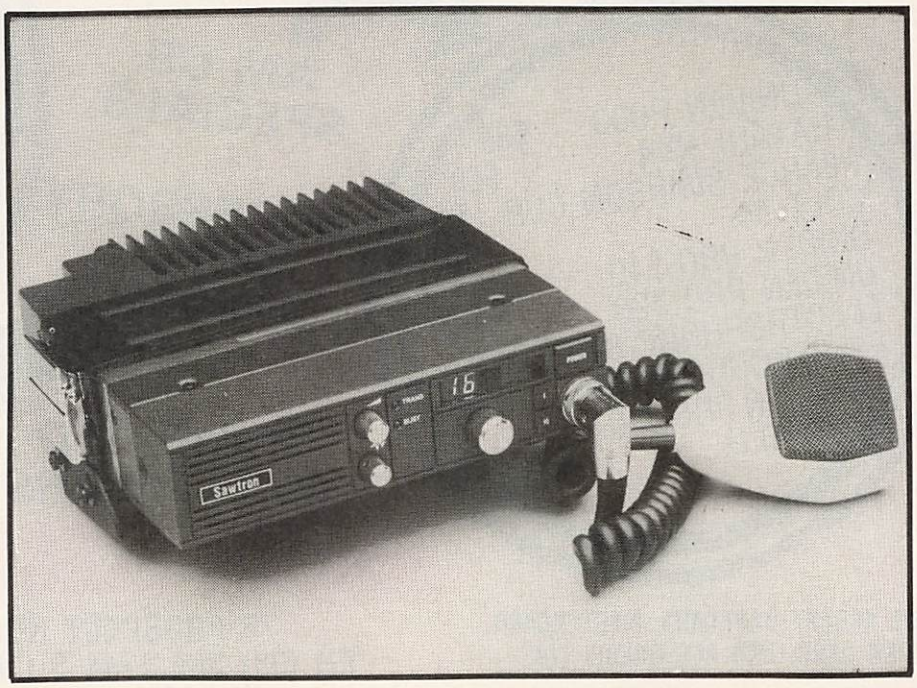
Certainly some CB stores are carrying out modifications — although you've got to ask for it.

No-one wants to draw any undue attention to themselves, which comes as no great surprise.

For their part, the importers and manufacturers of these radios claim to have no knowledge of such modifications, with some waving it off with comments like, "It can't be done" or "Our radios were designed so that this is impossible."

Well, it can be done, and people are doing it.

Sawtron rigs are ideal for modification being, and we quote 'Terry', "an absolute dream — very flexible".



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DESK MICROPHONE FOR SAWTRON TRANSCEIVERS

Imark Pty. Ltd., have released the Sawtron ESM-105M desk microphone for use with Sawtron KG105, KG107 and KG110 commercial transceivers and the Sawtron 990 and 999 UHF CB transceivers.

The Sawtron ESM-105M desk microphone connects directly to these transceivers and incorporates an inbuilt microphone preamplifier. Unlike other desk microphones, it does not require batteries to operate.

The microphone features attractive modern styling and complements modern office decor.

It incorporates 'Call' and 'Reset' switches for use with selective calling, 'Monitor' and 'Monitor Lock' switches for use with CTCSS as well as the usual PTT function.

It comes complete with a 1.8 metre 7 conductor microphone cable with a 7 pin microphone plug fitted. Dimensions are 150(D) x 70(W) mm and the weight is only 440 grams.

CB RECORD ATTEMPT

At 9.30am on December 27 an attempt will be made to hold a frequency open for 21 days (500 hours) in the hope of obtaining an entry in the Guiness Book of Records and, most importantly, to raise funds for the Cystic Fibrosis Association of Queensland.

Cystic Fibrosis is a life threatening disease which seriously affects the lungs and digestive systems of thousands of children throughout Australia.

The CB radiothon will be conducted from the Kawana Shopping World on the Sunshine Coast and will be headed up by Leon Smith — commonly known as the Sugar Charlie 112 — with assistance from Glen (Koala Radio 829), Trevor (QDO 239) and David (The DJ).

The attempt will be made using 22 LSB American or Channel 18 Australian — 27.225 MHz.

As the operators will be trying to hold the channel open non-stop, they request your co-operation and hope that, skip permitting, they will receive plenty of calls (and donations) from interstate stations.

They also ask that clubs or groups include them in their QSOs when conditions allow.

Callers will be invited to donate to the Association and each will receive an acknowledgement card which will also serve as a receipt.

There will be a couple of raffles — one for a set of four Bob Jane steel radials to suit the winner's make of vehicle and the other for a Pearce-Simpson 40 channel Tomcat with power supply and base antenna.

Tickets for each cost $1 and cash should be forwarded to Leon Smith, P.O. Box 142, Buddina, 4575.

They will both be drawn on January 17 and winners will be notified by mail and results will be published in the Brisbane Courier Mail and the Sunshine Coast daily on January 19.

When purchasing tickets please state which raffle you are entering and include a self-addressed and stamped envelope.

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OUT WEST

Well, hullo again, sorry I missed out last time, but it was just one of those things. It was nice of our editor to take the blame, but I suppose it was partly my fault. While he spent two weeks trying to contact me to tell me the deadline was a week early, I was soaking up the warmth of Geraldton again. When I finally got the message that deadline was day X, I was already into day Y and sorting out what I was going to write about, so I had a rest instead.

In my last column I commented upon an item about an emergency antenna for 27 MHz and asked "Why 75 ohm coax?". As there was no response to this question, I assumed that most readers were as much in the dark as I was, so I started investigating.

A wise tech' gave me the answer I needed and I thought I was all set — then along came Lou Franklin's excellent run down on SWR (last issue) and I had all sorts of new questions and avenues of experiment.

The answer to the 75 ohm coax question was that, as manufacturers know their sets will not always be feeding an exact 50 ohm load, most, if not all, transmitters have matching circuitry in their finals which can handle impedances of 25 to 75 ohm quite easily. Of course, "you don't get nothin' for nothin'" as the saying goes, so there will be some loss of power when the set starts to back off to protect itself as you get away from 50 ohm impedance.

As Lou pointed out, a 50 to 75 ohm mismatch is the same as a 1.5 to 1 SWR and some modern sets will shut down completely if this is exceeded — but the loss is usually no greater than you would get by connecting a 50 ohm coax to a 72 ohm antenna anyway, and it does work. (See results on Test Chart).

This does not argue with Lou's statement that, "Changing the coax impedance is not practical", because he is talking about getting the maximum available power to a good antenna system.

My SWR experiments came about because I had run into some SWR oddities about a week before reading Lou's article. The State Emergency Service unit that I am involved with had problems with handheld 27MHz sets losing contact rapidly in thick scrub so, figuring that a "lossy" field antenna above the scrub would be better than a "very lossy" Rubber Duck on the set, we made up 6 antennas almost identical to the one described by Rod Jason (also in last issue) and found they worked quite well.

In making them up I had cut four pieces of 50 ohm coax, which happened to be 32ft 9ins each, before I realised that I did not have enough for two more the same, so I just cut the remainder in half and had two at 27ft 6ins each. (I am not going to bother converting to metric, it would only mess up a good thing.)

When trimming the antennas to SWR I found that the four with longer coax would not come below 1.4 to 1 and one was 1.7 to 1 and the forward power readings varied between 2.5 watts and 3.75 watts. The two with shorter coax came down to 1:1 quite easily, but showed a forward power of only 0.8 watts, which worried me somewhat. By the way, did you notice that 33ft 9ins is almost three half wavelengths in coax and 27ft 6ins is almost a quarter wave less?

After reading Lou's article, I decided to make an identical antenna, but with 75 ohm coax and test them all from my mobile set. I threw a rope over a tree limb in my back yard and hauled each antenna, one at a time, to the same point and also held the coax horizontal for 9ft out from the antenna while a friend reported results from his base station about 10km away.

The results were surprising and are shown on the chart, I have only included the best and worst of the S.E.S. lot because they all followed the same pattern.

As you can see, the one with the worst power reading was one of the better performers, but not by much, which proves what Lou said — standing waves on the feedline repeat their pattern every half wavelength back from the antenna feed point and the SWR/Power meter will show you only what is going on at the point in the line occupied by the meter, not what is going on at the antenna (or at the transmitter for that matter). The meter is only part of the overall feedline and the pattern continues right back to the set.

While doing the SWR tests I had my meter in the line with a 5ft 9in jumper lead, but did the transmission tests with the meter and

jumper removed and it suddenly struck me that I was, accidentally, probably doing the right thing because the jumper was near enough to a quarter wave in coax. So, with the meter in line, the set would be "seeing" a different SWR to what I was seeing on the meter.

To prove this I went to my base set, which has a built-in SWR meter. I hooked up my jumper and test meter and took the readings from both meters.

At the set 1.1 to 1, test meter 1.3 to 1.

I then removed the test meter and replaced it with a double female coupling between the jumper and the main coax — reading at the set still 1.1 to 1. I removed the jumper lead and, lo and behold, my set showed its usual 1.3 to 1.

It is likely that the lower signal report for the 1.7 to 1 SWR, (shown on the chart) was caused by the set folding back a bit on output because of that SWR. I did not think of it in time, but, if I had done the tests again with the meter and jumper in line I would probably have reversed the first two signal reports.

Obviously, you can not change the standing wave pattern in the line by changing the length of the coax, but, you can change the APPARENT SWR at the transmitter, and this is all the transmitter is intersted in . . . !

All of this experimenting has led me to the following conclusions, which I will stick with until proven wrong:

1. If you want your set to "see" the same SWR as you see on the meter, don't leave the jumper and meter in line.
2. If you keep the meter in line you should keep the jumper lead very short or a half wavelength (about 11ft 6ins at 27MHz).
3. If you are prepared to stand the losses in a poorly matched system, but want the best you can get from your set in those circumstances, go for a good APPARENT SWR at the transmitter by adjusting the length of the coax.

After trimming all those antennas for SWR, I measured them and found that they were all about the same length, but, were well short of the 8ft 7ins suggested as a resonant length by the usual formula.

I suspect that the last few inches of coax becomes part of the antenna when trimming like that.

ANTENNA TEST RESULTS

Coax length or Antenna	*SWR*	*Fwd Power*	*Signal Strength Reported*
32ft 9ins	*1.7:1*	*3.75 W*	*3.2*
27ft 6ins	*1:1*	*0.8 W*	*3.5*
31ft 75 ohm	*1:1*	*2 W*	*3.6*
Whip on Van	*1.3:1*	*3 W*	*3.6*

★ ★ ★

In time for the last issue, so a little out of date now, I had a letter from WCF 967 David at Collie, including a photo which, unfortunately, can't be reproduced here because it is in colour and very light toning.

The photo shows an aluminium extension ladder (you know the sort, two five metre sections with one sliding up from the other) clamped vertically to the framework of a trailer, a four element beam on top, a Station Master out the top of that and David up there adjusting something. I must say it looks pretty hairy too, but on with his letter:

"I've been going to write for months as you know because I am always telling you at S.E.S. courses, exercises, emergencies, etc . . . well I've finally put pen to paper.

Firstly, I don't know if it will be suitable or not, but, I have sent a photo of my version (the best of course — laugh laugh) of the venerable Mobile Sky Hook. Obviously it takes more than five minutes to put up, due to the beam. But, I have been in an operational mode in under twenty minutes from going stationary.

It consists of a Station Master vertical and a home made four element yagi. Supporting these is a portable extendable mast (extension ladder) which is very handy when you want to adjust the SWR or take photo's of the surrounding area.

The ladder is simply clamped to the trailer — self supporting, but, can be guyed, especially if a breeze starts pushing the yagi (which is quite effective as a wind trap).

There's only one disadvantage with this set-up so far and that is I've had to obtain a "Single Operator Muscle Powered Antenna Rotating Device" or SOMPARD for short.

Well, that's it from me Don. Sorry I haven't written before, but, due to one thing or another I never got around to it."

Thanks for the letter David.

★ ★ ★

Well, no more letters, and I have been too busy to pick up anything on the grapevine, so that will have to do for now.

If you want to tear my experiments to pieces, or give me some new ideas, or even just say hullo, the addess is PO Box 31, Bunbury 6230, or phone (097) 25 1284.

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UNDERSTANDING ANTENNAS

If there is one facet of radio communication which invites experimentation from novice CBers to long licensed Hams it is that of antenna design and operation.

However, before you start experimenting it's essential that you have a basic grasp of antenna theory.

In this article Lou Franklin, author and publisher of "Understanding & Repairing CB Radios", looks at some antenna theory and supplies the answers you will need if you are thinking about some experimentation.

An antenna is a tuned circuit of inductance and capacitance, just like any other LC circuit. When connected to an RF voltage source, it oscillates. The differences between antennas and internal tuned radio circuits result from their physical sizes. Ordinary LC circuits are so small relative to their wavelength that most of the energy is used space. This radiation is the radio "wave".

Figure 1 illustrates why this happens. When a signal is applied, free electrons are forced to one end and build up a strong negative charge. This leaves the opposite wire and missing its electrons, which results in a strong positive charge. Electrostatic and electromagnetic lines of force are thus generated, which are oriented perpendiular to each other.

With nothing to maintain the charges on the ends they start moving back towards each other, and the magnetic field begins to collapse back into the wire. This collapse drives the excess electrons towards the end that was formerly positive. But then another RF wave comes along.

If the antenna is long enough, some electrons won't be able to reach the end and reverse themselves before the driving signal changes again. These electrons are permanently lost as radiation of electrostatic fields into space, and thus a transmitting antenna is created. If such waves should strike another electrical conductor a current of the exact same frequency is induced in it, creating a receiving antenna.

EFFECT OF ANTENNA SIZE ON RECEPTION

Although the qualities which make antennas radiate and receive electrostatic fields are basically reciprocal, there's a large practical difference between them.

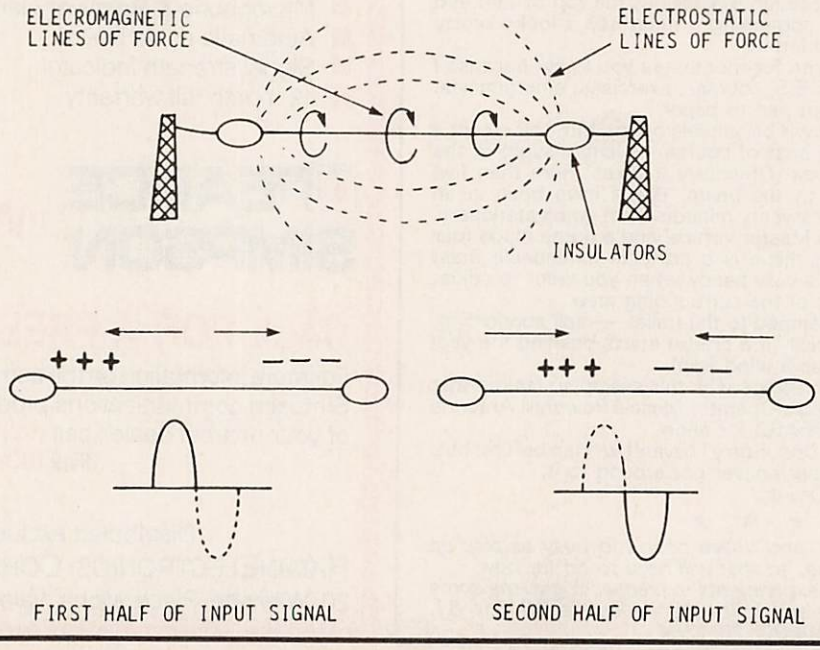
Assuming no losses, virtually all of a transmitter antenna's RF energy is radiated, regardless of its physical size. When receiving though, the antenna can only pick up energy from the incoming wavefront in a radius within about a ¼-wavelength from each side of the conductor, meaning ¼ + ¼ = about ½-wavelength total.

All electromagnetic radiation obeys the 'Inverse Square Law,' which means its strength fades as the **square** of the distance from the source. For example, if you were to triple the receiving distance from the transmitter antenna, the field strength will be reduced not by ⅓, but by $[⅓]^2$, or 1/9.

Now a ½-wavelength 27 MHz CB antenna is about 17' long. But up at say, 470 MHz, a ½-wave antenna is only about 1ft long. They're equally efficient when transmitting. Using the Inverse Square Law and equal transmitter power, the CB antenna (being 17 times longer) will capture about $[17]^2 = 289$ times more RF energy than the 470 MHz antenna.

Therefore the higher the frequency, the less energy received. This disadvantage can often be compensated by the fact that at those higher frequencies, it becomes physically practical to build very high-gain beam antennas.

FIGURE 1
ELECTRICAL FIELDS GENERATED IN THE ANTENNA



But antenna gain still isn't anywhere close to the total gain resulting from all the receiver amplifier stages. A top-of-the-line CB beam antenna might have a maximum of 10-15 dB power gain. A typical CB receiver has about **130 dB** total gain from antenna to speaker. When combined with the effect of the Inverse Square Law, this explains why you can often hear local stations that are much further away than your ability to transmit to them.

EFFECT OF RESONANCE

Like all tuned circuits, antennas work best at only one specific frequency or band of frequencies, known as the "resonant" frequency. This is the frequency at which they naturally oscillate when stimulated with radio energy, and where the maximum energy can be radiated from or induced into the antenna. At resonance, all antenna currents are in phase with each other.

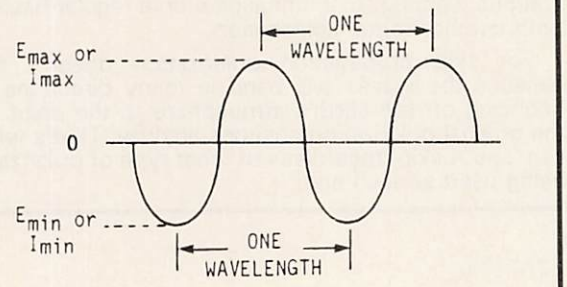
Moving away from the resonant frequency creates inductive or capacitive reactance, which prevents the RF energy from being used most efficiently. The antenna 'efficiency' refers to the amount of actual radiation compared to the amount of losses from resistive heating in the coax feedline, loading coils, connectors, or various station accessories, all of which are in series with the signal path.

With the low transmitter power of CB radios, reactive antennas are extremely undesirable. To maximise efficiency, the antenna must be tuned or made resonant at the desired frequency. In practice this means adjusting its physical length relative to the electrical or RF wavelength. The process of making CB antennas resonant is commonly called 'matching' or 'SWR matching,' or simply 'tuning.'

FREQUENCY & WAVELENGTH BASICS

Since radio waves are sine waves, they have peaks ('maxima') and valleys ('minima'). The frequency of a radio wave ('wavelength') is the number of voltage (or current) maxima and minima per second. A wavelength is the distance from any point on one wave to the same point on the next wave. This is shown in Figure 2 by the familiar sine wave.

FIGURE 2
DEFINING THE WAVELENGTH



At CB frequencies, there are 27 million such waves per second. The higher the frequency, the more waves there will be in one second and therefore the shorter each wavelength must be. Shorter wavelengths also have more energy, since the circuit that produced them had to be able to generate many more of them in the same time period.

Microwaves, X-Rays, and nuclear radiation are all forms of radio energy with wavelengths so short they can literally pass between the molecules of human tissues. This energy/wavelength principle also explains why exposure to those higher frequencies can be much more dangerous than the lower frequencies.

The speed for all types of radio waves is the same regardless of frequency, about 300,000,000 metres per second. (The metric system is most often used). Knowing this speed, the actual wavelength can easily be calculated. Since CB signals occur in a frequency range of millions of cycles per second or MHz, the wavelength formula is conveniently simplified to:

(wavelength in metres = 300
over freq. (MHz)

At 27 MHz, one wavelength is about 300 27 = 11.11 meters, or 36.44 feet. This is the wavelength in air, but will actually be about 5% shorter when passing through a more dense medium like the steel, copper, or aluminum used in CB antennas. So the practical wavelength is about 95% of 36.44', or 34.62'. A simplified formula which accounts for this difference in speed and simultaneously converts the measurement to feet is:

(practical wavelength is feet = 936)

Using this formula, one CB wavelength is about 34.67 feet, which is close enough to the above figure for a practical antenna design.

WAVE PROPAGATION

Radio waves can be categorized according to how they 'propagate' or travel outward from the antenna. See Figure 3. 'Ground' waves move only along the earth's surface, following the contour of the ground. They'll actually travel about 10% beyond the distances to the horizon due to atmospheric bending. "Sky" waves travel upward into the earth's atmosphere and may be reflected back from the earth's under the right conditions, sometimes thousands of miles away. (This is the familiar 'skip' or 'DX' meaning distance.) 'Line-of-sight' or 'direct' waves are somewhere in between, unable to move along the ground or to be reflected back from the earth's atmosphere. Which wave form dominates will depend mainly on the operating frequency.

The sky wave reflection is caused by ionized particles in the earth's atmosphere, which form layers at various heights above ground. When sky waves are reflected, they're received only where they return to earth. The area in between is a dead zone completely skipped over by the signal. Figure 3B shows two outgoing waves at different angles from the transmitting antenna. The reflection angles and therefore the skip distances are different.

Any location besides RX ANT #1 or RX ANR #2 (and beyond ground wave range) can't receive the transmission. This explains why very often only one station in a shortwave conversation can be heard; a third-party listener may be just the right distance to receive one station. Sky waves can also often be reflected more than once, making communications possible over great distances.

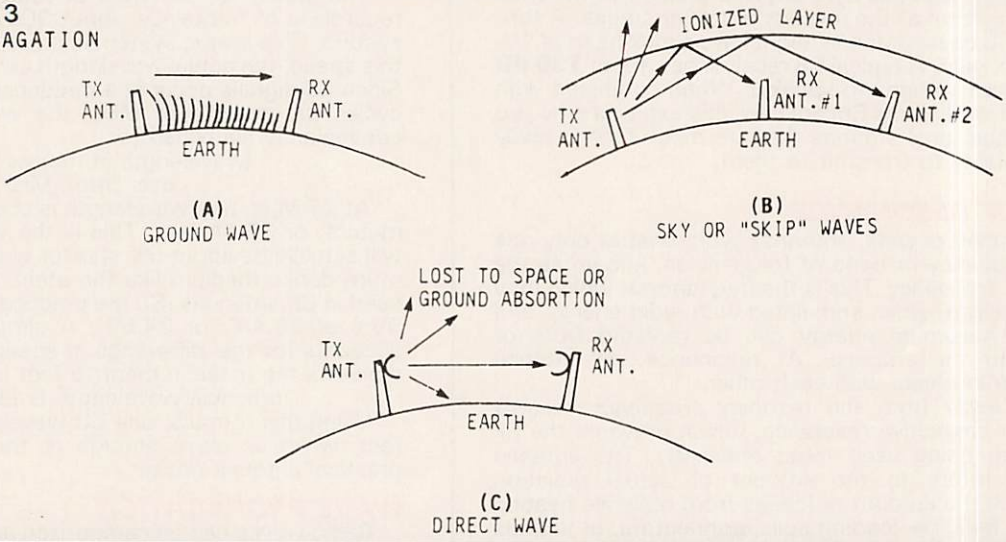
For example, Amateur operators in the western U.S. can easily work Japanese Hams using multihop skip; salt water makes an excellent reflector of radio waves.

As the frequency increases, ground waves are absorbed more and more until they disappear completely. This explains why you might hear a commercial AM broadcast station at say, 630 KHz perhaps 150 miles away, but a station with equal power on 1570 KHz may fade out beyond just 30 miles. The fact that distant broadcast stations skip in at night is coincidental and due only to sky wave propagation. At the other extreme are some very low frequency (10 KHz), high-power military transmitters that are able to communicate with submarines anywhere in the world using ground waves.

Line-of-sight wave propagation is chosen for commercial, VHF, UHF, satellite and microwave use, where the small physical wavelength makes highly directional antennas practical. Skip is basically nonexistent. The 'shortwave' of HF bands (3-30 MHz) were intended for skip type propogation, since these broadcasters primarily want distant coverage. The end use determines the frequency, and therefore the choice of

CONTINUED OVER

FIGURE 3
WAVE PROPAGATION



UNDERSTANDING ANTENNAS (CONTINUED)

ground wave vs direct wave vs sky wave. Antenna design can favour any particular type.

The 27 MHz CB band is a shortwave band. Ground waves don't propogate well and when combined with the low (legal) CB transmitter power, communications are limited to just a few miles. Sky waves do propogate very well, which explains why CB is more of a hobby than a serious local business as originally intended. Many CB operators prefer 'shooting skip' (DX) to local communications, which seems only natural. (DoTaC may disagree though!)

PREDICTION IS A SCIENCE

Predicting how radio waves will behave is a science in itself, and is affected by many factors like antenna height, time of day, time of year, the 11-year sunspot cycle, terrain, temperature, operating frequency, and ground conductivity. Range depends upon all these factors plus things like transmitter power, receiver sensitivity, power supply voltage, losses in cables and connectors, and ambient background noise or interference. That's why there are no definite rules about CB range !

The effective range of all radio waves is directly related to the efficiency of the antenna system. Maintaining high efficiency is a large part of the CB technician's job.

WAVE POLARIZATION

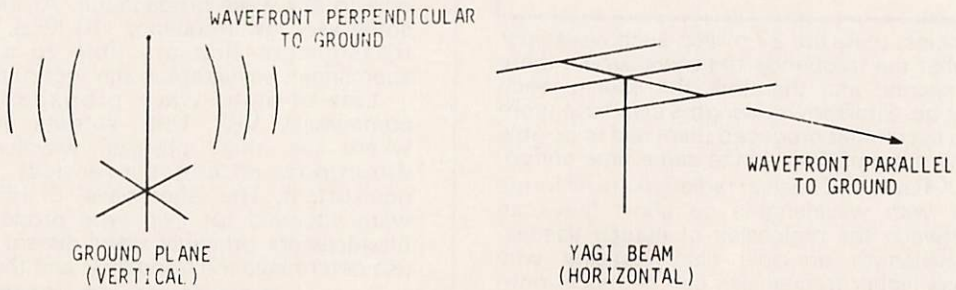
The angle of the electrostatic wave relative to the earth is called 'polarization' Antennas parallel to the ground radiate horizontally-polarized waves, and those perpendicular to the ground radiate vertically-polarized waves. See Figure 4. (Polarization shouldn't be confused with directivity, discussed later.) For best efficiency, the transmitting and receiving antennas usually have the same polarization. Attenuation from cross-polarization can exceed 20 dB at 27 MHz, and some CB base antennas are purposely designed with switchable or dual-polarization to take advantage of this.

Another possibility is circular polarization, where rotating radio waves leave the antenna at every polarization angle. It's commonly used in FM and TV broadcasting because of the need to reach homes with horizontal Yagi antennas, cars with vertical whips, and ''rabbit ears'' with everything in between. This can be further broken down into left-hand rotation and right hand rotation to control the cross-attenuation.

CB operation is usually vertically-polarized; horizontally-polarized antennas of the required length are physically harder to support and not very practical, especially for mobile use. (In CB jargon horizontal polarization is called the ''flat side''). A major disadvantage of vertical polarization is its tendency to pick up more ignition noise in mobile operation. Otherwise there's no reason why two stations wanting to communicate on a regular basis can't both use horizontal polarization.

For skip propagation polarization doesn't matter, because the waves will bend in many directions when bouncing off the earth's atmosphere to the point where the original polarization changes anyway. That's why you can 'shoot skip' regardless of what type of polarization is being used at each end.

FIGURE 4
WAVE POLARIZATION



Short Wave Listening on the cheap

N.T's. CAAMA RADIO

This is the first in a series of brief 'backgrounds' on easy to hear shortwave stations written by Stephen Newlyn of the Southern Cross DX Club.

It is aimed at the reader who only has a modestly priced SW receiver, rather than an all bells and whistles specialist communication rig.

In this column I intend to feature 'Shortwave Broadcasters' that can be heard on your 'AVERAGE' SW portable, as many of us don't have the money to spend over $1000 dollars on the latest superset or even have the space to erect a decent type of antenna. Also, environmental regulations prevent the erection of any type of outside antennas in some local government districts.

This is where the SW portable comes in.

It is designed to work best with the supplied built-in antenna. Most of the newer portables have general coverage (150khz to 30mhz) and most have acceptable performance and, above all, they have a NEW price of around $300 to $400 dollars, (a more detailed look at receivers will appear hopefully in the next issue).

CAAMA

To commence our guide to easy to hear radio stations we are going to start right at home. CAAMA (Central Australian Aboriginal Media Association) was first established in 1980 with the aim to provide Aboriginal people (especially the Central Australian region) with relevant media services (broadcasts in Aboriginal languages, etc.).

At first, a local commercial radio station provided half an hour a week access to CAAMA for six months, then the ABC (Australian Broadcasting Corporation) signed a contract with CAAMA to buy one and half hours of pre-recorded radio programming per week.

In 1981 a local public radio station opened in Alice Springs and CAAMA was given 30 hours per week.

It took a further three years before CAAMA was granted its own public broadcasting licence when, in 1984, enough money was collected to purchase a main FM transmitter at Alice Springs and three translators at Santa Teresa, Hermansburg and Ali Curung.

CAAMA RADIO 8KIN-FM

CAAMA produces 91 hours of radio programmes per week which are broadcast in five languages.

8KIN-FM programming consists of a new service every half-hour alternating with the five languages, special request music shows with 'country music' predominating, live talk-back shows, traditional story telling, educational programming on health, legal rights and other topics broadcast in an 'advertising' format!

SHORTWAVE SERVICE

The shortwave service is a shared facility between CAAMA and the ABC. Two transmitters of 50 kilowatts each transmit the ABC and CAAMA giving a varied programme. The Alice Springs based transmitter began officially on the 20th February 1986 with a call-sign of VL8A, while a second transmitter is located at Tennant Creek with a call-sign of VL8T.

A third transmitter (ABC 'Radio National' only) is located at Katherine with call-sign of VL8K and this began official operations in late April 1986.

Programming is essentially the same as you would hear on 8KIN-FM, however, because of its shared nature some parts of the day have ABC programming while CAAMA shares some of the other air time.

During the weekends the service is all ABC as CAAMA does not broadcast during this time.

Its request programmes, which can be heard well during the evening, has a big following among the Aboriginal community and also white people who live in the area. While rock music is played on 8KIN-FM and its SW relay, the music that is heard the most is "Country Music" with country greats such as 'Slim Dusty', 'Johnny Cash', and a lot of good sounding Aboriginal "country" bands.

RECEPTION REPORTS

Both CAAMA and the ABC verify correct reception reports and reply postage is recommended. As CAAMA is fairly new to SW broadcasting, it is advisable to advise reception conditions in English rather than use codes, the address for reports is .....

ABC NT Shortwave Service
GPO Box 9994
DARWIN NT 0801

CAAMA RADIO
P.O. Box 2924
ALICE SPRINGS NT 0871

The frequency schedule as taken from the 1988 edition of the "World Radio TV Handbook" is as follows. . . .

VL8A 2310 KHZ 0728-2228 UTC Local Nights///4835 KHZ 2228-0728 UTC Local Days

VL8T 2325 KHZ 0728-2228 UTC Nights///4910 KHZ 2228-0728 UTC Days

VK8K 2485 KHZ 0728-2228 UTC Nights///5025 KHZ 2228-0728 UTC Days

CAAMA is on the air. Monday to Thursday 1930-2030, 2050-2145, 2300-0200. 0345-0730 and 0915-1200 UTC. On Fridays programming is extended to 1730 UTC (early Saturday morning local time).

While every care has been taken in making this article correct, unforseen changes in the programming may make some of the information incorrect.

So listen to CAAMA you might be surprised at what you will hear.

Article is based on information supplied by CAAMA Radio and the writer's own personal observations!

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EVEN IF YOU ONLY OWN A TRANSISTOR RADIO YOU'LL FIND THAT

LOW COST DXing IS EASY

It won't cost you a fortune, or require a fancy antenna and radio. It is as challenging as international shortwave listening. CB Action's scanner writer RUSSELL BRYANT tells you how to get the most from your transistor radio by DXing the AM Broadcast Band . . .

If I attempted to catalogue the various categories of radio I would fill half this magazine. To own just one radio from each category would require a shack the size of the average house.

However, if I told you there is a facet of the hobby that does not require any monetary outlay to purchase the right equipment, would you be interested?

Well there is. You don't have to buy anything because you probably already own several radios that will suit. It is the humble AM broadcast band receiver, the 'trannie'.

The recipe is simply to take one transistor radio, a lot of time (preferably at night), several envelopes, a quantity of postage stamps and the good book. No, not the Holy Bible, but a bible nonetheless, the World Radio TV Handbook.

The WRTVH is the gospel according to SWLers. It has a wealth of information such as postal addresses and station identifiers for government and commercial broadcasters worldwide. If you decide to collect reception report acknowledgments. (QSL cards) then the right address for the station you have just logged ia a must.

What can you expect when all the ingredients are mixed? The fruits of your labor are just as sweet logging a station in North Queensland on the bedside clock-radio, as they are monitoring a transmission from the other side of the world on a FRG8800 or R5000 comms receiver.

Night is the best time to DX the broadcast band, because of the lack of interference. Apart from the radio, a pad of paper and a pen are your only other requirements.

Another benefit of BCBDX is that you don't need a special antenna. The standard ferrite core or telescoping whip will suffice.

Start with the dial as far to the left as it can go, below 520 KHZ, slowly move the indicator to the right, SLOW is the rule. When a contact is made note the time, the sex of the DJ, the approximate frequency (an exact frequency can be obtained later), the type of broadcast, be it news, music (if possible the name of the song), sport or whatever. Most important is the callsign or station identifier.

Okay, so you have all the details noted. First consult the WRTVH and check the precise frequency. The next step is to put all your notes into some order so that a program manager can read them.

Australian radio stations, like the larger overseas shortwave broadcasters, will acknowlege reception reports by a QSL. A neat concise and informative report is therefore mandatory when writing to radio stations. Address your correspondence to the PROGRAM MANAGER. The station may or may not verify the information you have supplied and in either case it does not have time to waste on badly worded or compiled reports. So, be neat and to the point.

A typical reception report should include a reference to the 'S I N P O' scale. No, that is not a spelling or typographical error. The word 'S I N P O' means 'S' signal strength, 'I' interference, 'N' noise, 'P' propagation disturbance, 'O' overall merit.

This is an internationally recognised method of reporting a station and can prove useful to radio engineers in knowing just how far their broadcasts reach.

The type of reception report that I use is shown elsewhere in this article. It includes the time, the day of the week, the date, callsign, the DJ and the frequency. Other information relates to the 10 to 15 minutes of broadcast such as music, news and so on.

The QSL you receive from logged stations may vary from a simple card to several pages of information about their transmitters and antennae, their history and may include a map of the intended broadcast area. Some stations include logo decals as part of their reply. Be warned, there are a few broadcasters who do NOT reply.

The challenge to log as many stations in a given time or as far as possible applies equally to local AM stations as it does to overseas broadcasters. Many country AM radio stations are emitting very modest amounts of power in comparison to their big city cousins.

Between 520 KHZ and 1620 KHZ, or just over one megahertz, there are over 250 AM stations with most on the air 24 hours a day and all competing for air space.

It will require a certain degree of skill and patience to log many regional and country low power broadcasters, because of the number of high power stations using the same frequency or an adjacent one. To log a major Perth station on the east coast is no mean feat either, especially since the equipment used is not manufactured for DX work.

A list of the 120 or so commercial AM broadcast stations by frequency with their callsigns is included for easy reference. This list does not contain the many ABC stations. The government broadcaster's network extends to all corners of the country by virtue of its translators (repeaters) and Aussat satellite links.

RECEPTION VERIFICATION CARD Technical detail.

Your letter received.....
and reception verified.

.....

3NE north east 1500

Frequency — 1600KHZ. 1566 KHZ.
Main Transmitter — RCA BTA5/10 L2.
Standby — STC 2.5kw.
Wave Length 187.5 metres.
Aerial power 5kw, 2kw.
Tower, guyed, 95.16 metres high.
Directional. Non-Directional.
Transmission Site — Bowser. Vic.
Studio Equipment — by R.M.E.,
Plessey, Urei, Revox, Rola,
Optro, Stanton, AKG, Sennheiser,
Philips C.E.

Covering North Eastern Victoria (Benalla, Myrtleford, Beechworth, Bright, Yarrawonga, Corowa, Rutherglen, Glenrowan, Chiltern, and Wodonga) from Studios in Templeton Street, Wangaratta, Victoria.

Many AM broadcast stations send confirmation in the shape of a QSL card as shown, others will forward a letter, decals, or whatever.

The reception of AM broadcast signals many hundred and even thousands of kilometres beyond the anticipated coverage area is due to atmospheric conditions.

Radio transmissions emitting from an antenna do so with two distinct waves. The groundwave simply follows the curve of the earth and fades some distance from the radiating element.

The skywave, however, is the most important factor in DXing. The skywave travels toward the sky or earth's atmosphere. Due to certain conditions it is reflected back to the earth rather than disappearing into space. Reflection is caused by by the 'F' region. The height of the 'F' region can vary from 160 to 420 kilometres above the earth's surface. During daylight hours the 'F' region splits into two layers. The lowest is called the 'F1' layer and has little to do with skip conditions. The principal zone known as 'F2' has considerable influence over long distance communications.

Broadcast frequencies under 2 MHZ simply hit and bounce off. Broadcast band waves are unfortunately prone to interference from the 'D' region through which they must travel, before reaching the beneficial 'F' layers. Because of the amount of ionisation within the 'D' layer and the effect the sun or lack of it has on the ions, radio signals will fade. This is another reason the signal at night is superior to the one at daytime for the sun is not affecting the layers.

The area between the groundwave at its usable limit and where the skywave first returns to earth, is known as the silent zone, because reception of either wave is not possible.

The distance from the antenna to the first return to earth of the RF signal is subject to the critical angle. The lower the angle the greater area travelled by the skywave.

The world is becoming small due to advances in technology. With hobbyists, amateurs and radio users generally being swept up in the flood of sophisticated transceivers, receivers and scanners, many of the simpler aspects of hobby radio — SWLing, QSLing, and DXing — are being lost. With AM broadcast band DXing, using an everyday household receiver is a return to the good ol' days.

Freq.	Callsign	Location
531KHZ	2MC	West Kempsey (NSW)
531	3UL	Warragul (VIC)
531	4KZ	Innisfail (QLD)
540	7SD	Scottsdale (TAS)
558	4JAM	Mareeba (QLD)
558	4GY	Gympie (QLD)
558	7BU	Burnie (TAS)
567	2BH	Broken Hill (NSW)
666	6LN	Carnarvon (WA)
693	4KQ	Newstead (QLD)
747	6SE	Esperance (WA)
765	2BE	Bega (NSW)
774	4TO	Townsville (QLD)
780	2KA	Penrith (NSW)
783	6VA	Albany (WA)
801	2GO	Gosford (NSW)
801	5RM	Berri (SA)
828	4NA	Nambour (QLD)
837	7QT	Queenstown (TAS)
846	4CA	Cairns (QLD)
864	4GR	Toowoomba (QLD)
864	6AM	Northam (WA)
864	7HO	Hobart (TAS)
870	2GB	Sydney (NSW)
882	3YB	Warrnambool (VIC)
882	6PR	East Perth (WA)
882	4BH	Brisbane (QLD)
900	2LM	Lismore (NSW)
900	2LT	Lithgow (NSW)
900	6BY	Tuart Hill (WA)
900	7AD	Devonport (TAS)
900	8HA	Alice Springs ;(NT)
918	2XL	Cooma (NSW)
818	4VL	Charleville (QLD)
818	6NA	Narrogin (WA)
927	3UZ	Carlton (VIC)
927	4CD	Gladstone (QLD)
936	4AY	Townsville (QLD)
945	3BO	Bendigo (VIC)
954	2UE	Sydney (NSW)
963	6TZ	Narrogin (WA)
963	4WK	Toowoomba (QLD)
963	2RG	Griffith (NSW)
963	5SE	Mt Gambier (SA)
972	2MW	Murwillumbah (NSW)
972	2DU	Cobar (NSW)
972	5DN	North Adelaide (SA)
981	2NM	Muswellbrook (NSW)
981	3HA	Hamilton (VIC)
981	6KG	Kalgoorlie (WA)
990	4RO	Rockhampton (QLD)
990	6PM	Subiaco (WA)
999	2ST	Nowra (NSW)
1008	4IO	Brisbane (QLD)
1008	6GE	Geraldton (WA)
1008	7EX	Launceston (TAS)
1017	2KY	Sydney (NSW)
1026	3DB	Melbourne (VIC)
1026	4MK	Mackay (QLD)

Freq.	Callsign	Location
1026	6NW	South Hedland (WA)
1044	5PI	Port Pirie (SA)
1053	2CA	Canberra City (ACT)
1071	3CV	Bendigo (VIC)
1071	4SB	Kingaroy (QLD)
1071	6WB	Tuart Hill (WA)
1080	2MO	Gunnedah (NSW)
1080	6IX	Tuart Hill (WA)
1080	7HT	Hobart (TAS)
1089	2GZ	Orange (NSW)
1089	3WM	Horsham (VIC)
1098	4LG	Longreach (QLD)
1098	6MD	Merredin (WA)
1098	7LA	Launceston (TAS)
1107	2UW	Sydney (NSW)
1116	4BC	Brisbane (QLD)
1134	2AD	Armidale (NSW)
1134	3CS	Colac (VIC)
1134	6CI	Narrogin (WA)
1143	2HD	Newcastle (NSW)
1143	4HI	Emerald (QLD)
1152	2WG	Wagga Wagga (NSW)
1161	4MB	Maryborough (QLD)
1170	2CH	Sydney (NSW)
1170	4GC	Charters Towers (QLD)
1179	3KZ	Carlton (VIC)
1188	2NZ	Inverell (NSW)
1197	4GG	Southpot (QLD)
1197	5KA	Adelaide (SA)
1206	2GF	Grafton (NSW)
1206	6KY	Tuart Hill (WA)
1206	2CC	Canberra City (ACT)
1224	2WS	Sydney (NSW)
1242	3TR	Sale (VIC)
1242	8DN	Darwin (NT)
1242	5AU	Port Augusta (SA)
1242	4AK	Toowoomba (QLD)
1251	2DU	Dubbo (NSW)
1260	3SR	Shepparton (VIC)
1260	6KA	Karratha (WA)
1269	2SM	Sydney (NSW)
1278	3AW	Melbourne (VIC)
1287	2TM	Tamworth (NSW)
1296	4BK	Brisbane (QLD)
1314	3BA	Ballarat (VIC)
1314	2WL	Wollongong (VIC)
1323	5AD	Adelaide (SA)
1332	3SH	Swan Hill (VIC)
1332	4BU	Bundaberg (QLD)
1341	2NX	Newcastle (NSW)
1341	3GL	Geelong (VIC)
1350	2LF	Young (NSW)
1368	4LM	Mt Isa (QLD)
1368	2GN	Goulburn (NSW)
1377	3MP	Frankston (VIC)
1386	5AA	Kentown (SA)
1404	2PK	Parkes (NSW)
1413	2KO	Newcastle (NSW)
1422	3XY	Melbourne (VIC)
1449	2MG	Mudgee (NSW)
1458	5MU	Murray Bridge (SA)
1467	3MA	Mildura (VIC)
1476	4ZR	Roma (QLD)
1494	2AY	Albury (NSW)
1503	2BS	Bathurst (NSW)
1503	3AK	Richmond (VIC)
1521	2QN	Deniliquin (NSW)
1530	2VM	Moree (NSW)
1557	2RE	Taree (NSW)
1566	3NE	Wangaratta (VIC)
1575	200	Wollongong (NSW)

A 'S I N P O' scale is set out like this:

	S	I	N	P	O
5	excellent	nil	nil	nil	excellent
4	good	slight	slight	slight	good
3	fair	moderate	moderate	moderate	fair
2	poor	severe	severe	severe	poor
1	barely aud	extreme	extreme	extreme	unusable

A rig review with a difference

CB WITH NEWS and MUSIC

This radio is not for everyone, however, everyone seems to be fascinated with the concept.

The idea of rolling everything into one auto entertainment centre has plenty of merit — especially in today's cars where space to install extra equipment is at a premium. The main hurdle to overcome for the importers of this equipment would be the proliferation of high grade AM/FM radios supplied as standard with many locally-made and imported vehicles.

However, there is a definite market niche into which the Audiovox XT-250 should comfortably fit. Since this product is a little different from our usual reviews we thought it only fair to say a few words about the non-CB related features, for if you decide to buy one you will want to know if the cassette player works too.

SENSITIVE AM/FM RADIO

The AM/FM radio receiver section is quite sensitive and offers electronic station tuning with 12-memory allocations, six for AM stations and six for FM. The receiver also features automatic 'SEEK' tuning and includes a local/DX sensitivity control which allows the tuner to 'skip' weak signals when in the SEEK mode.

The receiving frequency appears on an LED display which is separate from the CB channnel display (also LEDs but green instead of orange). The analogue-style tuning knob is missing from this unit — the present trend — and instead two pairs of 'soft touch' buttons serve to advance or decrease the tuned frequency and to increment or decrement the CB channels.

The cassette player is the auto reversing type and functioned perfectly during the test. 'WOW' and 'Flutter' performance was good and reproduction during our test tape was better than average, meaning, our INXS tapes sounded great. While the output audio power is more than adequate for most users, don't expect to pop your 100-watt speakers if you are into heavy listening.

The truth is that like most other AM/FM cassette players, a bit of distortion creeps into the works if the 'loud pedal' is pressed a bit hard. To drive big-sound speakers you will probably still need a graphic-booster or similar to satisfy your declining hearing.

GOOD CB PERFORMANCE

The CB radio works better than we expected and performs right up with the better 40-channel AM-only rigs we have tested recently — it also offers most of the features too.

The LOCAL/DX switch (mentioned earlier) operates on CB too and gives the usual 20dB RF attenuation on the receiver without affecting the transmitter's performance. A LED labelled LO on the main display window indicates when the attenuator is activated.

Received signal strength and transmitter output is indicated by a vertical row of LEDs located just to the left of the channel display. Squelch control on the XT-250 also performs well and we had little difficulty in setting the 'threshold' for comfortable operation without requiring a super strength signal to break the barrier.

The transmitter output power was typically just a 'sniff' under four watts and reports of the transmitted audio were mainly flattering. It was very hard to over modulate the transmitter and our test gear indicated modulation peaks of about 90 per cent with just the occasional excursion over 100 per cent caused by very loud speech or a 'whistle' directly into the microphone.

GOOD PA SYSTEM

One department where the XT-250 really shines is when the PA (Public Address) facility is pressed into operation. Most CB rigs with PA are well down on audio power because there is no need for a high power amplifier in the modulator or receiver stages.

Also, higher audio output power in a normal rig would increase the manufacturing costs substantially and therefore the selling price to boot. The XT-250, by its very nature, has substantially more audio powers available and this comes to the fore when using the PA — about five times the power, would you believe?

Many operators would like to monitor a CB channel — the Highway Channel for example — without ever using the rig to transmit, however, the majority of radios require that the microphone is plugged into the set to activate the receiver.

If you have no need to use the mike it can be a nuisance at times. On the Autovox unit the CB receiver operates independently of the microphone and this alone is a good selling point.

A novel feature of this all-singing all-dancing little rig is the ability to listen normally to a tape or your favorite radio station while quietly monitoring a CB channel. With the CB radio section activated and the squelch set above the 'quiet threshold' the user can listen to a tape etc. with no indication that the CB is actually operating. However, when a signal strong enough to break the squelch appears, the CB receiver takes priority automatically above the entertainment section of the system. Very handy if you are travelling the highways with an interest only in road reports.

SUMMATION

Mechanically, the XT-250 is well put together by present standards and the case is designed to fit most vehicles where an 'in-dash' mounting facility is provided. Dimensions in millimetres are: Width 178 x Height 50 x Depth 140.

3 into 1 = 250

Audiovox xt-250

AM/FM Radio, Auto-reverse cassette player and 40 channel CB transceiver.

The latest advances in micro-technology have produced this amazing addition to the Audiovox range of high quality car audio products. This single compact* unit will provide all your auto-sound entertainment and communications with features beyond your wildest expectations. The easily read LED will display frequency, CB channel, RF signal strength and transmission output strength as well as quartz digital time. Impressive 40w audio output. The XT-250 gives you TOTAL control with separate bass and treble control and 4-way fader control. Plus the XT-250 comes with a 2 year warranty.

The Radio Function

The radio features long range reception with electronic tuning and 12 station memory (6 for AM and 6 for FM). The receiver also features automatic SEEK tuning function with a Local/Distant sensitivity switch.

The Cassette Player Function

The stereo cassette player features auto-reverse playing with locking fast forward and rewind controls.

The CB Transceiver Function

The 40 channel CB transceiver: The CB will still receive even when the push-to-talk microphone is disconnected. On Automatic STANDBY the XT-250 will allow the monitoring of the CB while listening to the radio or cassette, the circuitry automatically breaks through the radio reception or cassette.

* XT-250 dimensions: Width 178mm x Height 50mm x Depth 140mm.

Don't delay, call your nearest Audiovox dealer today to experience the sound of the future ... the XT-250

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SCANNING ACTION

A part of my policy in this column is to write what you want to read, so for that very purpose I have printed my mailing address at the conclusion of this edition's column. If you have any ideas on information or frequencies you are after, or even a frequency you want identified, drop me a line.

Just when you thought it was safe to make a permanent list of your frequencies, someone changes everything. This time it is the railways of three states that have ruined your plans.

Prior to 1901 and Federation, Australia was a collection of separate states, each developing its own laws, levels of government and even its own armies and navies. This individuality left us with a legacy that still exists today — the railways. Queensland has narrow gauge, New South Wales the standard gauge, Victoria runs on broad gauge, South Australia on broad and narrow, Tasmania and Western Australia on narrow.

However 87 years later something is being done to overcome at least the problem of communications between the different systems. Queensland, New South Wales and Victoria have adopted the National Railways Radio System, and all three have at least some channels in service. In the article on the State Rail Authority of NSW (CBA Nov/Dec '87) I mentioned the introduction of the plan.

For years the railway systems that cross our country have radio networks with few common channels for communication with each other. The plan allows for a number of channels to be used for train to controller, for yard work as well track support.

Plans are also in motion to connect 'phone patch facilities to the system. At this stage, (I have it on good authority) the main priority is to get the transmitters/receivers up and running so that propagation tests can be conducted. I would be interested to hear from anybody who is firstly a train enthusiast and secondly who logs a transmission on any of the following UHF frequencies. The channels are:

CHANNEL	NSW	QLD	VIC
416,975	ALBURY	ACACIA RIDGE	
	ENFIELD		
	NEWCASTLE		
417,075	BROADMEADOW		
417,275	ORANGE		
417,550			TOTTENHAM
417,850			FOOTSCRAY
			LITTLE RIVER
			STH GEELONG
			MORIAC
			WINCHELSEA
			BIRREGURRA
			BANNOCKBURN
			PIRRONYALLOCK
			CAMPERDOWN
			TERANG
			WARRNAMBOOL
418,100		BLUFF	
		BRIABA	
		DYSART	
		MACKAY	
		MT CUDMORE	
		MT McLAREN	
		PINE MTN	
		TABLE MTN	
418,125	BOMADERRY	BLAIR ATHOL	
	BOMBO	EMERALD	
	MOSS VALE	GOGANGO	
		GREGORY	
		KERLONG	
		LALEHAM	
		MAURICE HILL	
		SARINA	
418,150	MT GRAY	GERMAN CREEK	MILDURA
	CHULLORA	KOUMALA	WERRIMULL
		MT CROCKER	CARINA
		PEAK DOWNS	ARARAT HILL
		RAGLAN	AVOCA
		TOWNSVILLE	ELMHURST HILL
		WALLAROO	GUILDFORD HILL
			MOOLORT HILL
			WALDEUP
			REDCLIFFS
			HATTAH
			OUYEN
			SPEED
			WOOMELANG
			BIRCHIP
			DONALD
			ST ARNAUD
			BEALIBA
			DUNOLLY
			MARYBOROUGH
			TALBOT
			CHESWICK STH
			BALLARAT
			BANNOCKBURN
			LAL LAL
418,175	ASHFIELD	GERMAN CREEK	
	BROADMEADOW	GOONYELLA	
	COWAN	KOUMALA	
	HORNSBY	LAMBS HEAD	
	KOORANGANG IS	MT CROCKER	
	MOSS VALE	OAKY CREEK	
	SUGARLOAF	PEAK DOWNS	
	NEWCASTLE	RALLAN	
	ST MARYS	WALLAROO	
	SUMMIT TANK		
	TUNNEL PORTAL		
	WINGECARRIBEE		
	WOLLONGONG		
418,200	PORT KEMBLA		
418,250	BLAIR ATHOL		
	EMERALD		
	GOGANGO		
	GREGORY		
	KERLONG		
	MAURICE HILL		
	SARINA		
418,400	BLUFF		
	DYSART		
	MT McLAREN		
	MT STUART		
	TABLE MTN		
418,425	BLAIR ATHOL		
	EMERALD		
	GOGANGO		
	GREGORY		
	KERLONG		
	LALEHAM		
	MAURICE HILL		
	SARINA		
418,450	GLENBROOK	GERMAN CREEK	RENNICK
		KOUMALA	MARP
		MT CROCKER	GREENWALD
		PEAK DOWNS	HEYWOOD
		RAGLAN	CONDAH
		WALLAROO	HAMILTON
			DUNKELD
			WILLAURA
			LANGI LOGAN
			MT GAMBIER
			NYORA
			SALE
			TRARALGON
			MELBOURNE
			BAIRNSDALE
			BEACONSFIELD
			DANDENONG
			DROUIN
			FERNBANK
			KORUMBURRA
			MOE
			NTH PORTLAND
418,475	MOSS VALE	BRISBANE	
	SUMMIT TANK	CONSTITUTION HILL	
	WINGECARRIBEE	GOONYELLA	
	WOLLONGONG	OAKY CREEK	
418,550		BLUFF	
		TABLE MTN	
418,700		BLUFF	
		DYSART	
		MACKAY	
		MT INKERMAN	
		MT McLAREN	

		PINE MTN	
		TABLE MTN	
418,725		EMERALD	
		GONGANGO	
		KERLONG	
		MAURICE HILL	
		SARINA	
418,750	DURAL	GERMAN CREEK	LANGWARRIN
		KOUMALA	MELBOURNE
		MT CROCKER	
		PEAK DOWNS	
		RAGLAN	
		WALLAROO	
418,775	MOSS VALE	IPSWICH	
	SUMMIT TANK	KERLONG	
	WINGECARRIBEE	MAURICE HILL	
	WOLLONGONG		
419,000		BLUFF	
		DYSART	
		MACKAY	
		MT McLAREN	
		PINE MTN	
		SUMMER HILL	
		TABLE MTN	
419,025		GREGORY	
419,050			BIG HILL
			CARLSRUHE
			CHARLTON
			CLARKEFIELD
			DINGEE
			EAGLEHAWK
			ECHUCA
			ELPHINSTONE
			FOOTSCRAY
			GOORNING
			HARBOURT
			INGLEWOOD
			KERANG
			LALBERT
			MANANGATANG
			PYRAMID
			ROCHESTER
			SEA LAKE
			SWAN LAKE
			TARADALE
419,350			ARARAT
			BALLAN
			BACCHUS MARSH
			BEAUFORT
			BURRUMBEET
			DIAPUR
			DIMBOOLA
			FOOTSCRAY
			GERUNG GERUNG
			HORSHAM
			MURTOA
			STAWELL
			SUNSHINE
			WALWAL
			WALLACE
			JEPART
			SPEED
			WARREN HEIP
			SERVICETON
			BERRYBANK
			VITE VITE
			TATYOON
419,600	MT TERRIBLE		
419,650			ALBION
			BARNAWARTHA
			BENALLA
			BROADFORD
			EUROA
			FOOTSCRAY
			GLENROWAN
			HEATHCOTE JCTN
			LONGWOOD
			MANGALORE
			SOMERTON
			SPRINGHURST
			TALLAROOK
			VIOLET TOWN
			WANGARATTA
			WODONGA
			SEYMOUR
419,900		BATHURST	
		BLAYNEY	
		YETHOLME	
419,950			ALBION
			BARNAWARTHA
			BENALLA
			BROADFORD
			EUROA
			FOOTSCRAY
			GLENROWAN
			HEATHCOTE JCTN
			LONGWOOD
			MANGALORE
			SOMERTON
			SEYMOUR
			SPRINGHURST
			TALLAROOK
			VIOLET TOWN
			WANGARATTA
			WODONGA
			ST JAMES
			YARRAWONGA
			NUMURKAH
			KYABRAM
			SHEPPARTON
			MURCHISON EAST

READER REQUESTS . . . Some time ago a reader wrote to the old Scanning Around column requesting information on the frequencies used by the Military Police. A Mr H. Flynn, of Sydney (no relation to DF) wrote to me with the following information. In the ACT, NSW, Victoria, SA, WA, Tasmania and the NT the MPs use 79,240 and 79,420 MHZ, callsigns are alpha-numeric such as Bravo 2-6 Alpha or similar. He further mentioned the army used 78,94 and 79,00 MHZ in various states. If you are interested in military comms let me know, because the army uses a large chunk of the spectrum.

RUMORS DEPARTMENT . . . I heard that the Uniden Corporation, maker of the Bearcat scanners, has purchased the Regency Company, lock, stock and barrel. It has been some time since we last saw a Regency scanner in Australia. Mainly due to an agreement between AOR (2001 & 2002) and Regency, where they divided the world in two and each controlled a section, marketing the same radio under their own brands. In America the AOR2001 is known as the Regency MX5000 for example. I hope that Santronic Corporation, agents for Uniden in Australia, will also carry the Regency gear.

NEW GEAR . . . Tandy recently loaned me an advanced model of its new handheld, the PRO 34. Covering all the usual bands, it has the distinction of being the first 800 MHZ handheld to arrive here. Memory channels number 200 and it covers from 806-960 MHZ. Retail is $579.95. I can't help admiring the Realistic products, they represent value for money as well as reliability. A full review of the PRO 34 will appear in the coming issue.

PRODUCT UPDATE . . . Hatadi, Pearce Simpson are hoping to re-release the COBRA SR 12 handheld scanner in the near future. I am told that the SR 12 is so popular in the US that supplies are short. Keep in touch with your nearest Hatadi dealer for arrival of the SR 12.

SURVEY RESULTS . . . As you know the results from our Reader Survey are in and I can tell you there are one or two surprises. The first, from all those surveyed, is that a third of CBA readers own at least one scanner. The results also showed that of that third, Realistic makes up 70%, with the PRO2004 and PRO 32 at 35% and the various others models also sharing 35%. Uniden Bearcat takes 20% and the AOR2001/2002, Saiko SC7000 and the like are in the remaining 10%.

Among the scanner enthusiasts 43% operate short-wave receivers and an incredible 57% use a personal computer. The results showed that scanning enthusiasts are into more aspects of the hobby of radio than other catagories, such as UHF, SWL and computers.

That about wraps it up for another month. Remember to keep those letters coming, and just to sweeten the pot, from time to time I will be awarding a prize for the best or most interesting letter received. The first give-away will be a frequency guide for the state of your choice. The guide has been supplied by Lee Andrews of Andrews Communications of Sydney.

The address to write to is:

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PO BOX R 16,
ROSELANDS, NSW, 2196.

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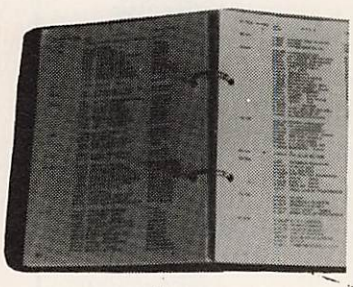

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NEW!! Uniden UBC200XLT

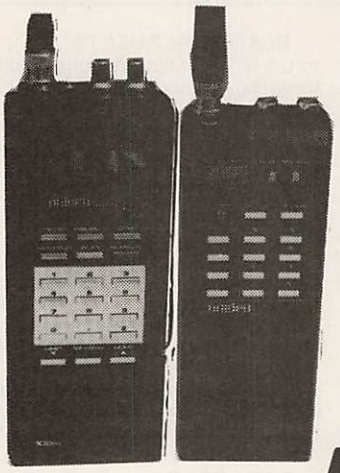
One of the most powerful handheld scanners you can buy!

• 12 bands, including Aircraft, right up to 800MHz • Rechargeable battery pack and charger • Huge 10 bank/ 200 channel memory • 10 priority channels

Bearcat 50XL

Economical scanner, yet provides facilities not available on many more expensive models.

• Coverage: 29-29.7MHz, 29.7-50MHz, 50-54MHz, 136-144MHz, 144-148MHz, 148-174MHz, 406-420MHz, 450-470MHz, 470-512MHz • Keyboard lock • • Low battery warning • Automatic 3 second scan delay. • Selectable channel lockout.



Uniden Bearcat 100XL

A 16 channel handheld unit that covers 9 bands, including aircraft, UHF, VHF high band and priority lowband frequencies.

• Channel lockout • Auto search and squelch • Scan delay • Patented track tuning for high sensitivity – 0.3uV • Priority channel, checked every two seconds for messages

Bearcat 175XL

The Bearcat 175XL is an ultra-high performance base unit.

• Automatic search • Patented track tuning • Priority channel • Memory backup. • Coverage: 66-88MHz, 118-136MHz, 136-144MHz, 144-148MHz, 148-174MHz, 406-420MHz, 420-450MHz, 450-470MHz, 470-512MHz.

Cobra SR15

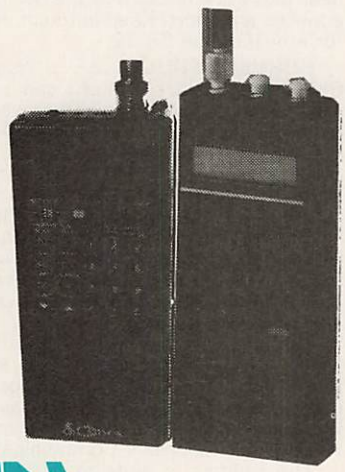
Australia's most compact yet sophisticated scanner.

• 100 programmable memories in 5 groups • LCD display with light for night viewing • Complete with ni-cad battery and charger • Priority channel, lockout, delay, memory protect and search/scan • Coverage 29-54MHz, 108-136MHz, 136-148MHz, 148-174MHz, 406-52MHz, 66-88MHz (option)

Challenger BJ200

Compact, powerful and affordable.

• 16 channel memory with channel lockout and scan delay • Liquid crystal display, lamp switch • 0.5uV sensitivity • Scan rate 10 channels per second • Accessories include: NiCad battery pack, flexible antenna, carry case, wall type charger, earpnone • Coverage 26-29.995MHz, 50-88MHz 115-178MHz 200-280MHz 360-520MHz



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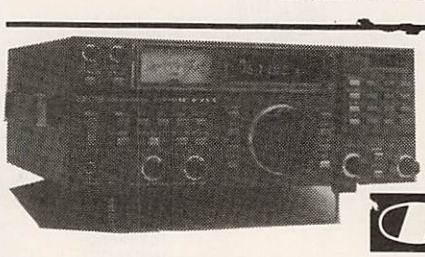

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ICOM 7000 – the ultimate scanner

This superb new scanner from ICOM offers unmatched facilities.

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Phone now for our special introductory price!!

ICOM IC-71 General Coverage Receiver

A superior general coverage receiver.

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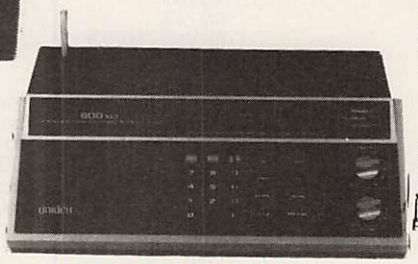

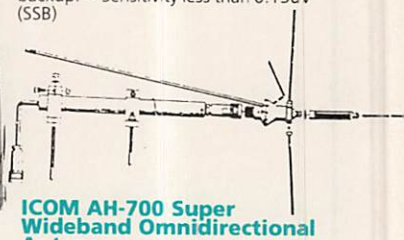

ICOM AH-700 Super Wideband Omnidirectional Antenna

You get fantastic reception from 25 to 1300MHz and the ability to transmit on the 50, 144, 430, 900 and 1200MHz bands with this a revolutionary new antenna from ICOM. Input power rating is 200 watts. Length is only 1.7 metres. Supplied with N-type connector and 5D-2V coax. Perfect for scanners.

Uniden Bearcat 800XL

One of the finest scanning receivers you can buy.

• 40 channels in 2 banks of 20 • Automatic search • Selective Scan delay. • Direct channels access • Channel lockout plus manual step search • AC/DC operation • Priority channel and weather search

SAIKO SC8000

High performance Saiko SC8000 mobile.

• Coverage: 26.0 – 30.00MHz, 68.00-88.00MHz, 118.00 – 138.00MHz, 138.00-178.00MHz, 380.00-512.00MHz • Display shows mode, channel, frequency and channel step. Sensitivity 0.5uV, • 50 memory channels • Delay function, channel blockout and priority channel.

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Stage 5. Adds manual override and comupter memory that records and relays activities that take place in the vehicle while unattended.

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This is the ultimate heavy duty mobile antenna. If you want the best range and an antenna that can take it in 4WD territory, this is it.
Height 6'
Pretuned, SWR <1.5:1
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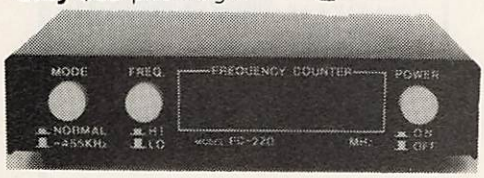
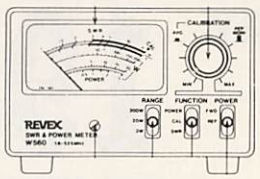


FC220 RF Frequency Counter

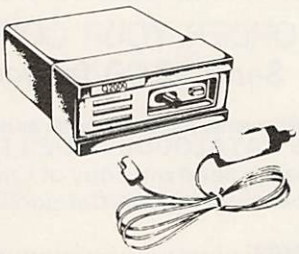
Compact unit provides digital frequency readout of both transmitter and receiver. Built-in 455KHz down system. Maximum transmitter power 100W (works 0.5-100W). Frequency range 1MHz-54MHz (HF) and 50MHz-250MHz (VHF).

only $129.00



W560 Revex SWR Meter

Commercial standard SWR and power meter. Frequency of operation 1.6MHz-525MHz. Use of a unique directional coupler ensures ultra low insertion loss. Power scales



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Low pass filter to 30MHz. Rated at 1KW

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Boost the receiver performance of your CB with this high performance signaliser. Fully adjustable gain plus/minus 30dB. Connects in seconds. Fully automatic switching.

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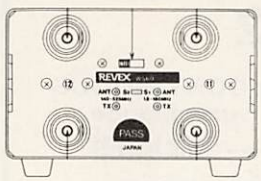

3W/20W/200W. Built-in PEP monitor display measures modulation peak power. Measures forward, reflected power and SWR.

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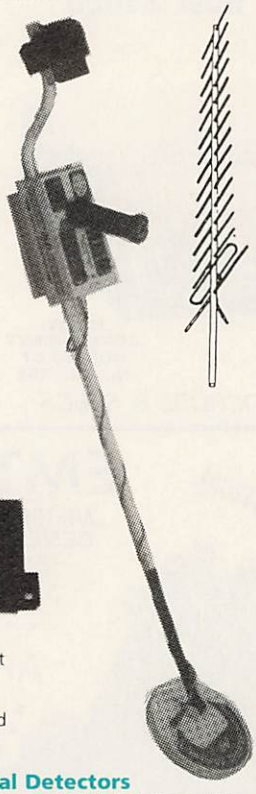

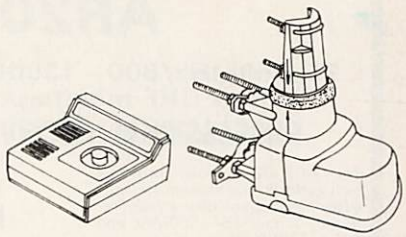

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Frequency Spectrum Charts

Full colour wall chart of the RF spectrum. Commercial, amateur and CB usage, spacing etc.

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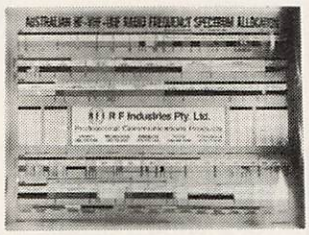

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The AR2002 receiver provides high performance monitor and surveillance reception over a wide frequency range; 25—550MHz and 800—1300MHz.

The wide frequency coverage, combined with reception modes of AM, FM (wide), and FM (narrow), make the AR2002 a versatile unit for a range of applications.

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- 40 Channel UHF CB
- Repeater offset
- RF Output: 2W high, 0.4W low, 3W with 10.8V battery
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GENERAL SPECS

Freq range: 476.425 - 477.400 MHz UHF/CB
Freq control: Digital PLL synthesiser
Type of emission: 16F3
Antenna Impedance 50 ohms
Power supply: 8.4V - 15%
Operating temperature: 10 to + 60°C

APPLICATIONS

- Commercial & Professional Work
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OPTIONS:

- KT-SM1 Ext mic. ● KT-PA DC/DC converter
- KT-BA dry cell case ● KT-LC carrying case
- KCS-100 Desk top dual charger

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NEW!

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Commercial Quality Scanner

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- 99 MEMORIES
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Yes, this is new from EMTRON — highly accurate CROSS-NEEDLE SWR & POWER meter, model EP-200 covers a frequency range from 1.8 — 30 MHz, and has two power ranges — 20 and 200 watts. **Only $99**

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HOW WOULD YOU LIKE TO WORK

100 COUNTRIES IN 48 HOURS

To a CBer, DX means a contact with an interstate or overseas' country and it means precisely the same to a Ham operator.

The CBer, however, is hampered in his search for DX by many factors.

Firstly — it's illegal to work overseas' DX and although most operators ignore what is an obviously stupid restriction there are quite a few who fear a visit from the RIs.

Secondly — it's not easy to work DX when you're confined to a legal 40 channel system.

Thirdly — it's not easy when you're restricted to a small power output.

Given all the above, most CBers are ecstatic if they manage to work one overseas station every so often and to rack up a total of maybe 100 different countries in a couple of days must remain very much a pipe dream.

Even allowing for the fast approaching Sunspot Cycle 22 (due in couple of years) CBers will still find it difficult to work more than a couple of countries a week — or maybe a month.

How then would you like to work not only 100 countries in two days, but, to work rare ones which even the long-term Ham has difficulty in working ?

No, you're not going to work them as a CBer, but, if you don't mind putting in some time on homework, come this time next year you will be able to do just that...

A weekend in October each year is to a Ham what the Melbourne Cup is to Australia.

It is the date for the annual CQWW Contest.

The American magazine CQ each year sponsors this DX contest and it's a ripper.

The basic game is to work as many stations as possible during a 48 hour period and there are various categories allowing for multiple operator, multiple frequency operation through to single operators running QRP (minimum power) stations.

Because a rare country will attract more calls from other stations, amateurs throughout the world mount DXpeditions to places not visited at any other time of the year.

This often involves large expenses and complicated logistics to move operators, antennas, camping equipment, generators, rigs and — you name it they take it — to a remote location.

The stations are allowed to work all Ham frequencies which range from 1.6 through to 29 metres and this year a great amount of attention focussed on 10 metres.

This band, quiet for the last few years, sprang back into life a couple of months back and is becoming better for DX with every passing week.

Comes the next Sunspot peak it is going to be an amazing band which will give operators the chance to work around the world on a daily basis.

As a Novice operator, I'm only allowed to run 30 watts PEP (Peak Envelope Power), but, given a good Yagi, plenty of coffee and a sore bum from sitting hunched over the rig for hour after hour I managed to work about 80 countries including many which are rare by any standards.

My activities were confined to 10 metres only as I did not have an antenna active on 15 metres and by the terms of my license I am unable to work the other DX bands such as 14m and 29m until such time as I'm given a change-over brain and qualify for my full ticket.

Full-call stations are allowed to run bulk power (the level of which varies from country to country) and, when you add a big Yagi and linear, you've got one helluva signal.

Think about this one — my four element Yagi has an excellent front to back and side rejection ratio and some of the big gun DXpeditions could be hear at strength nine regardless of where you pointed the antenna

What's more, they had beautifully clear audio with no background noise (caused by too high a gain setting) or any other distortion (caused by pushing out of control bulk power).

Came the day of the contest and suddenly 10 metres was wall to wall operators ranging from hardly heard QRP stations to big gun 'gotta win this contest' operators who ran their operations like a military campaign.

Ponder on the following list which consists of ARRL DX Countries worked by myself and all on 10 metres.

America, Canada, Virgin Islands, Noumea, Vanuatu, Reunion Island, Dominica, Galapagos Islands, French Guiana, Vietnam, Alaska, Guam, Germany, Argentina, Paraguay, Chile, Peru, India, Pakistan, Sri Lanka, Yugoslavia, Russia (about nine different call areas), Marshall Islands, Hawaii, Tanzania, South Africa, Chatham Island, Trinidad, Korea, Japan, Thailand, Philippines, Norfolk Island, Cocos Keeling, Haiti, Aland Island, Baeleric Islands, China, Poland, Belgium, England, Denmark, Faroe Islands, West Germany, France, Switzerland, Uruguay, Fiji, Hong Kong, Singapore, Israel, Jordan, Puert Rico, Panama, American Samoa, Norway, Luxembourg, Oman, Holland, Sweden, Mariana Islands, Gabon, Botswana, South Africa, Spain, Scotland, Hungary, Bulgaria — and plenty more.

While most of the above are far from rare, some of them — Vietnam, Galapagos Islands, French Guiana, Virgin Islands, Aland Island, Dominica, etc. — are on air strictly for the contest and probably won't be heard again before next year's event.

If you think that you've heard a 'dogpile' when Indonesia comes up on channel 36 then you should hear the chaos when half the world is calling a single station — it's staggering — and 30 watts of power is literally swamped in the noise.

Yet, unlike our 11 metre shambles, the conduct of 99% of operators is outstanding.

Sure, they'll shout like hell to try and be heard, however, when the DX station replies to a call he has picked out of the din the others will go quiet (usually) until he has worked the station.

The worst offenders for not sticking to the agreed method of operation are the Russians and Japanese who tend to ignore everyone else in trying to make contact.

Some of the behaviour from these two caused at least one DX station to advise that he simply wouldn't work these countries because of their lack of operating manners — and he didn't !

At the start of this piece I said that if you are keen enough there is no reason whatsover why you can't join the action next year.

The Novice license is not difficult to obtain (lets's face it, I managed it) and that's all you need to maybe obtain your Century Club award in two days.

Even if you're not into chasing DX, it's a fun way to put in a couple of days and the challenge of chasing rare countries usually grabs you where it hurts.

Think about it — this time next year you, yes you, could be contacting 100 countries within a 48 hour period — and it's legal!...

SCANNERS

Challenger

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- AUTO AM/FM
- RECHARGEABLE BATTERIES
- BACKLIT LCD DISPLAY
- RECESSED KEY PAD
- HIGHLY SENSITIVE RECEIVER
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FREQ: 26-30/50-88/ 115-178/200-280/ 360-520 MHz

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★ THE IDEAL MOBILE

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Rod Fewster with the

QUEENSLAND SCENE

I seem to be spending my life in a semi-permanent state of deja-vu.

Years ago, last time the sunspots were being kind, I warned CB Action readers about a currency-swapping scam being perpetrated by a few unscrupulous foreign operators.

It's still early days in the current cycle, but already the con artists are at work.

The scam goes like this. . . .

The guy you're talking with tells you he collects banknotes, and asks you to send a nice clean hot-off-the-press "small denomination" banknote from Australia with your QSL card, ostensibly to add to his collection. In return he'll send you a banknote from his country.

The more proficient con artist actually sends a banknote from his country up front with his QSL card "to show his honesty", together with a request for one from you in return. How could anyone but a scoundrel not reciprocate?

It all sounds clean-cut and above-board, doesn't it?

WRONG!!

These characters are invariably in some European, Asian, or South American country where the currency is virtually worthless, and the crisp new banknotes with the pretty pictures of El Presidente's torture chamber or a La Cicciolina's bum they include with their QSL cards are worth a few cents at most. (The one I heard the other day was spruiking from Italy, home of the alleged originator of this rort back in the late seventies, "Radio Station Mario". . . . an obnoxious loudmouthed twerp, the memory of whom will make the hair on the back of any old-time pirate's neck stand on end.)

If you fell for the con years ago you could have sent these guys a dollar note and gotten a ten-wanquerio note worth two cents in return. Nowadays our smallest denomination note is five bucks.

Last time I checked, six million lire was worth about fourpence-halfpenny and a large wheelbarrow full of pesetas would buy you half a glass of cheap plonk.

Five bucks is a lot to pay for the privilege of owning a banknote worth less than a sheet of toilet paper in real money.

Come to think of it, the way our dollar stands at the moment it might be a good time for Aussies to pull the same rort.

Any yanks out there want to swap an American hundred-dollar bill for one of mine?

★ ★ ★

Sad to report the passing of a couple of my older CB friends.

Charlie Pfrunder wasn't heard all that often on CB, but when he spoke he always had something intelligent to say. A longtime supporter of emergency monitoring, Charlie preferred to remain quietly in the background rather than blowing his own trumpet about what a good job he was doing for the community. he was one of those guys who was always ready to lend a hand or offer good advice to newcomers without coming across as a know-all. A good guy and a good CBer.

Chas Hamson was an old pirate who "went straight" in a big way, almost to the point of being a pain in the bum at times. he often went crook at me for stirring up the Good Buddies and I called him a "silly old woman" and a "doddery old geriatric" more times than I care to remember, but even though we didn't see eye-to-eye on what CB is all about we were mates for many years. Like Charlie, a good guy and a good CBer.

I'll miss both of them.

★ ★ ★

My spies tell me that an all-out war is brewing on the Sunshine Coast.

It seems that some CBers up that way don't like the way some other CBers behave on-air or some of the things they say or the color of their cars or the way they comb their hair of something equally trivial and are threatening to take legal action or call in the RIs or strangle their pet cats or something equally ridiculous.

Isn't life fun on the magic electric wireless?

★ ★ ★

Trouble brewing over West End way.

Truckies recently tracked a regular disrupter of Channel 8 to his lair and informed the authorities of his whereabouts, but apparently they're not too happy about the lack of swift action.

There's talk of tar and feathers in the near future if the Rls don't hurry up and do their thing.

★ ★ ★

Latest offering from Uniden in the USA is the PRO-640e . . . a 40-channel SSB/AM mobile with everything that opens and shuts and one just happened to fall into my hot little hands the other day.

It's straight out of "Star Trek" in appearance and gives off an eerie green glow at night which makes you look like Mister Spock to passing traffic.

The mike socket is on the left-hand side of the front panel. The microphone is the same EC type which Uniden use on their Pro-510 and Pro-520 AM rigs. Even though the CRO indicated a near-perfect waveform the actual transmitted speech sounded terrible. Adding a decent aftermarket mike changed the modulation report from "Sounds like you've got a mouth full of sawdust" to "Studio quality". maybe I just got a dud mike.

Metering is by a diagonal LED bar . . . not just the usual four or five lights but ten green ones and two red ones. Just the thing for the "What am I pushing?" brigade.

The rig sports all the usual controls including MIC GAIN, but the RF GAIN is controlled by an RF ATT switch. It also had DIMMER and ANL/NB switches, a HI-CUT switch which reduces background hiss (fancy name for a tone control, but it seems to work), switches for Channel 9 and Channel 19 (both useless in Australia in my opinion) and a switch to cut in the inbuilt VSWR meter.

"What? A built-in swar meter?" the Good Buddies ask. Yep!! The LED meter is a triple-function SIG/RF/VSWR meter. it works after a fashion. it'll tell you if your antenna has been pinched or is way out of whack, but when it comes to tuning antennas I wouldn't rely on it or on any other inbuilt VSWR meter for that matter.

Retail price is US$249 but my spies tell me that you can pick one up for US$175 if you hunt around a bit. No sign of the Pro-640e appearing here as yet.

★ ★ ★

While I'm on the subject of VSWR . . . a lot of CBers seem to think that CB dealers are ripping them off by charging $10 (or up to $20 in some establishments) to tune a mobile antenna, so I'll explain the ins and outs of VSWR adjustment.

For starters, most CB service centres charge a minimum of $40 per hour for labor. if it takes ten to fifteen minutes to tune your antenna, there's ten bucks right off the bat. Also, the dealer's VSWR meter is generally a good quality accurate piece of test equipment rather than one of your cheap-and-nasty "CB special" jobs and may have cost him anything up to four hundred dollars. (Some inexpensive VSWR meters are quite good, but some are so inaccurate that you'd be better off having no meter at all.)

Let's say the dealer makes a boo-boo and cuts too much off your whip. it can happen, even to the best of us and it's impossible to stick a little bit back on. Unless he's a real shonk he's up for the cost of replacing it with another of equal quality. Part of the charge is insurance against having to give you a new antenna.

It also includes insurance against smoking your rig. This doesn't happen often, but over the years I've seen a few brand new expensive transceivers have a heart attack the instant the mike was keyed for the first time and you can't tune an antenna without keying the mike. (Not very easily, anyway.) Once again, unless the dealer is a shonk he has to wear the cost of the repairs if it's your own rig or a replacement if it's the one he just sold you.

Even though this occurrence is invariably due to a component fault in the transceiver, just try claiming warranty. The damage is identical to that caused by transmitting into a short circuit and importers won't wear the claim).

So there you have it. If you want to do it yourself you're up for the cost of a VSWR meter and if it's a poorly-calibrated cheapie you may be losing up to 50% of your rig's efficiency even though the meter shows a VSWR of 1:1, you run the risk of stuffing up the antenna, (on short whips half a millimetre can mean the difference between useable and useless), and there's always the possibility that you might do so much damage to your rig that the repair bill will make your eyes water.

Me? I'd rather pay a few bucks to have the job done by an expert.

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"People trust us with their property and their lives And the scanner we trust is Cobra."

Cobra scanners have been selected by volunteer emergency groups across Australia. Now, their feature-packed portable scanners bring the city and the skies to you, wherever you are.

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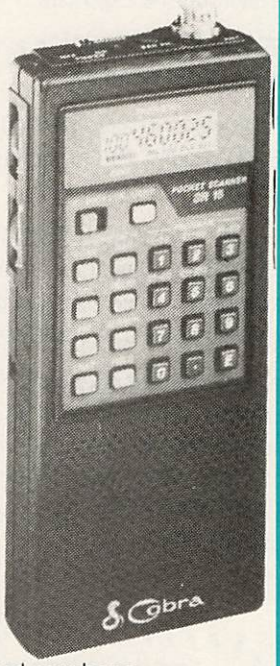

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The SCANTENNA-XLR wideband discone antenna covers 25-1300 MHz and is ideal for use with the latest scanners including Realistic PRO-2004, AOR-200, Icom IC-R7000, and similar "super scanners".

The eyes of the world are on Brisbane during World Expo 88.

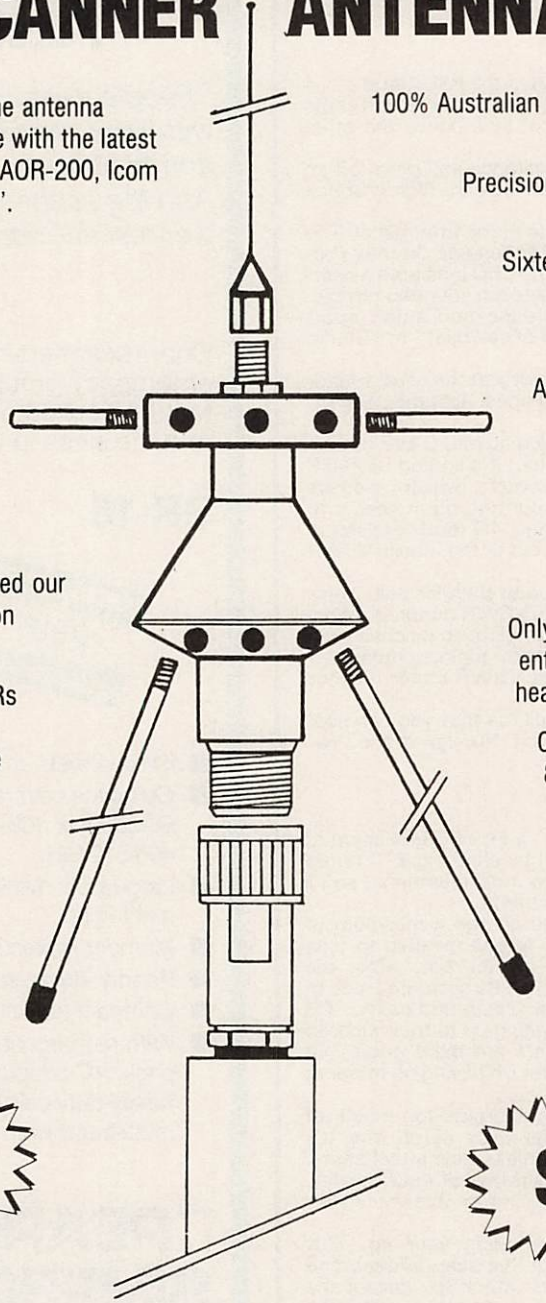
Brisbane television station TV0 has installed a multi-million-dollar newsroom (the most up-to-date in Australia) inside the Queensland Pavilion on the Expo site.

TV0 use SCANTENNA-2s at the Mt Coottha newsroom.

We're proud to say that TV0 has installed our SCANTENNA-XLRs to monitor the action from the Expo newsroom.

Why did TV0 choose SCANTENNA-XLRs to be used in this state-of-the-art newsroom, rather than one of the more expensive exotic imported antennas?

Because the SCANTENNA-XLR performs at least as well as any comparable antenna on the market and better than most, and the SCANTENNA XLR is 100% Australian !!



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Plastic endcaps reduce static interference.

Only one small machine screw in the entire antenna. (Fixes the disc/cone head assembly to the support tube.)

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Transmit with low VSWR on UHF-CB, and on 2m and 70cm bands.

TEST REPORT IN SEPTEMBER 1987 CB ACTION

$145 ($15 freight)

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PC-122 SSB/AM	**$269**
AX-144 SSB/AM	**$289**
GRANT SSB/AM	**$349**
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SPR beams feature our exclusive super-strong element-to-boom mounting brackets ... elements are not just poked through holes in the boom and bolted!!

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THE CB PLL DATA BOOK is the CB modifier's Bible. This all-new International Edition covers over fifty specific phase-locked loop ICs, with manufacturers' cross-references. Price $12.50 including postage.

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THE CB MODIFICATION HANDBOOK covers Australia's most common CB radios. Everything from a few extra channels to full-house conversions covering hundreds of channels, 5 kHz steps, increasing power, slides etc. Price $12.50 including postage.

THE LINEAR AMPLIFIER HANDBOOK has thirteen complete transistor amplifier plans, HF, VHF AND UHF, from 15 watts to 1000 watts. full parts lists, component layouts, and full-scale printed circuit negatives take the mystery out of building your own CB or ham linear, $8 including postage.

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ALL YOU NEED TO KNOW

BUYING A USED SCANNER

IN the second of a three-part series on scanning, CB Action's scanning columnist, RUSSELL BRYANT tells of the things to look for when buying a used scanner. A comprehensive list of models and prices is included for easy reference.

While glancing through an old copy of our sister publication 'Amateur Radio Action', I came upon an Communications. The full page ad was mainly devoted to scanners, with such names and models as Regency M10-E, M400E, T 720A Flightscan and H604E featuring prominently, together with the Bearcat 220FB, 210 and Thinscan scanners.

As I continued reading the magazine, more relics of the electronic past appeared. Even antenna mogul Mobile One marketed scanners in those early days. How many remember the Fanon-/Courier "Scanfare", a four channel crystal-locked handheld that came in law-enforcement grey, chrome and blue?

With the fluctuating fortunes of our dollar overseas, I wonder how many hobbyists are forced, because of the cost of new equipment, into buying a secondhand scanner? There are those who are maybe contemplating purchasing a used scanner to supplement their super scanner or the like — possibly one of the types featured in the old ads.

Many models, including the early Bearcats, have been around for sometime, first appearing in Australia 12 to 14 years on. It can be expected that critical parts, particularly the microprocessor are in short supply, if not downright impossible to obtain.

As scanner enthusiasts endeavor to update and improve their equipment, some of the older models are offered for sale through hobby magazines and trading papers. However before you rush in and hand over your hard won cash, there are a few points to consider. Firstly the age of the scanner. If, after buying it, the scanner is in need of repair, the cost of those repairs and the parts needed may total more than the radio was worth to begin with.

The external condition is also important as a relatively unmarked case might mean the radio has not suffered a fall or been used mobile. The best guide for checking any internal tamperings, if the vendors will allow, is to remove (or have them remove) the outer case. Look for any solder joints that may have been interfered with and also check for burn marks. A flash or burn mark may be evident because a component has exploded due to an oversupply of voltage or maybe reverse polarity.

If you are satisfied with the interior, the second test is to try programming a few frequencies into the memory. Select services that are beyond the local area to see if the sensitivity is down. The causes of low sensitivity are varied from the backyard technician trying to get more out of the scanner, to lightning striking the aerial.

Run the scanner through its paces, checking that all the buttons do as they are supposed to. If the handbook is not included, try to obtain a copy. A photostat is better than none at all as the handbook will list the programming sequence, specifications, maybe a circuit diagram and general information about that model.

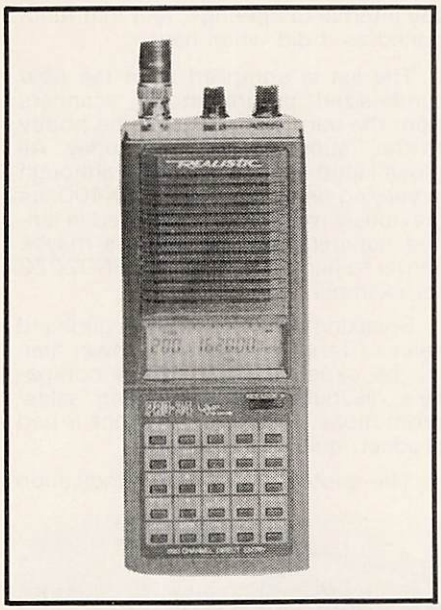
Remember scanners sold privately rarely come with a guarantee, and seldom can they be returned if they malfunction. Take care.

Prior to the arrival of the programmable scanner, monitoring was by crystal-locked scanners. Few of the "locked" models had more than 10 memory channels or frequency ranges suitable to Australia. If buying a crystal scanner ensure that crystals are still available or that they can be cut (manufactured). Costing upwards of $12 each it would be wise to obtain the formula needed to calculate the crystal frequency. Other information to note is, the type of holder, the overtone and capacitance of the crystal. If the information you supply to a crystal manufacturer is incorrect, you can be assured the crystal will not work. It cannot be returned either so be certain.

The first programmable scanners to arrive in Australia had limited frequency ranges. An example is the Bearcat BC210, capable of receiving 30-50 MHZ, 146-174 MHZ and 420-512 MHZ. It limited the user to only the VHF high band and UHF — the low band, until recently, has been ignored. Make sure the model you are considering buying has the frequencies you need.

After "testing the waters" with the scanners covering the American low band VHF (30-50 MHZ), importers were aware that the hobby of scanning

The SX200 is complicated to program, but, has features well ahead of its time.



The Tandy (Realistic) PRO 34 is the first of the 800MHz hand-helds and will retail for around $580.

had potential in Australia. The US manufacturers were approached to alter their products to cover the mid-band VHF (68-88 MHZ). This not only created a better market for scanners in Australia but Europe and Great Britain, who also use the mid-band, could take advantage of the upgraded models.

Thye Bearcat 220FB was the first to cover the mid-band VHF albeit in a fractured way. The 70-85 MHZ band has 15 KHZ spacing between channels, the 220FB had 12.5 KHZ spacing. An accurate frequency readout is only obtainable every fifth frequency. For example if you program 83.760 MHZ into the Bearcat, 83,762 is displayed. Although slightly off frequency it is not noticeable to the user. All the old Electra Bearcats have this problem, however the Uniden Bearcats have the proper channel spacing.

It took the Regency Corporation to get things in order with the M100 and M400 scanners. Spacing on the mid-band VHF is 5 KHZ so all channels can be monitored. Designed for mobile use, the Regency found immediate acceptance with the tow truck industry because of its sleek lines and simplicity to operate.

One of the earlier scanners that appeared with features ahead of its time was the JIL SX 100. A multi-position squelch switch, allowing the exclusion of unmodulated signals, a 16 channel memory and clock were also standard. The SX 100 is a complicated scanner to program, so if you lose the handbook you maybe in trouble. It also suffered from an above average number of birdies. The SX 200 did little to alleviate complicated programming, but the birdie problem was reduced to an acceptable level. One JIL scanner that

Continued over

CB ACTION'S READY RECKONER TO SECONDHAND SCANNERS

B = Base, M = Mobile, H = Handheld/Portables

MODEL	*TYPE*	*CHs*	*L*	*A*	*M*	*H*	*U*	*C*	*8*	*PRICE $*	*COMMENT*
BEARCAT											
50XL	H	10	X			X	X			100-120	
100	H	16	X			X	X			150	
100XL	H	16		X	X	X	X			220-250	airband 118-136
145XL	BM	16			X	X	X			250	
150FB	B	10			X	X	X			150	
175XL	BM	16		X	X	X	X			220-250	airband 118-136
200FB	BM	16		X	X	X	X			200	airband 118-136
BC210	BM	10	X			X	X			100	
220FB	BM	20		X	X	X	X			120-150	airband 118-136
BC250	BM	50			X	X	X			120-150	
800XLT	BM	40		X		X	X		X	300-350	airband 118-136
REGENCY											
M100E	M	10			X	X	X			150-200	
M400E	M	30			X	X	X			200-250	
T720A	B	16		X						100-150	airband only
HX850	H	20		X	X	X	X			200	
HX1000	H	30		X		X	X			150-175	
HX2000	H	20		X	X	X	X			200	
MX4000	M	40		X	X	X	X		X	200-250	
TANDY (REALISTIC)											
PRO2001	BM	16			X	X	X			150	
PRO2002	BM	50		X	X	X	X			200	
PRO2004	B	300						X	X	400-450	
PRO2008	B	24			X	X	X			200	
PRO2009	B	8			X	X	X			150	
PRO2010	B	20		X	X	X	X			200	
PRO2020	BM	20		X	X	X	X			150-200	
PRO2021	BM	200		X	X	X	X			300-350	
PRO30	H	16		X	X	X	X			100-150	
PRO31	H	10			X	X	X			100-150	
PRO32	H	200		X	X	X	X			250-300	
PRO38	H	10			X	X	X			150-175	same as BC150XL
A.O.R											
AOR2001	BM	20						X		300	
AOR2002	BM	20						X	X	500-600	
J.I.L											
SX100	BM	16		X	X	X	X			100	
SX200	BM	16		X	X	X	X			200	
SX400	B	160		X	X	X	X			300	expandable
SAIKO											
SC1600	M	16			X	X	X			175	
SC4000	H	40			X	X	X			150-200	
SC7000	BM	70		X	X	X	X			200	
MICROCOM											
SX160	H	160			X	X	X			150-200	same as SC400
HANDIC											
SIMILAR TO TANDY PRO SERIES. SEE LIST FOR COMPARISON OF FEATURES AND PRICE											
DICK SMITH											
PRO40	BM	40			X	X	X			150	

ICOM											
IC7000	B	99						X	X	1200-1400	
YAESU											
FRG 965	B	99						X	X	600	covers 60-900MHZ
KENWOOD											
RZ 1	BM	100						X	X	600	covers 0.5-900MHZ
COBRA											
SR 12	H	16	X	X		X	X			200-225	
SR 15	H	100	X	X		X	X			200-250	lowband version
SR 15	H	100		X	X	X	X			250-275	midband version

showed promise was the SX 400. It came standard with a continuous coverage from 25-550 MHZ, however with the addition of "add on" converters frequency range was expandable to cover 150 KHZ to 3.7 GHZ. The SX 400 appeared in small numbers and, for some reason, did not gain acceptance with enthusiasts.

Latecomer to the scene was the Tandy Corporation with the release of its PRO2020 followed closely by the PRO2002. The 2020 has a 20 channel memory and the 2002 a 50 channel memory. Both Tandy scanners are rather large and are not suitable for installation in a car.

As part of the rivalry that exists between Tandy and Dick Smith Electronics, the Smith Electronics marketed a scanner under its own brand name. Called the PRO 40 it had limited success before disappearing from the catalogue almost as quickly as it appeared.

It was during this period that Bearcat commenced its decline. In an effort to regain lost ground Electra released a number of "budget" scanners.

The BC150FB and BC200FB were not good examples of Bearcat's capabilities. Suffering from old technology and outdated styles, Bearcat soon became market followers rather than market leaders. Uniden's purchase of the famous feline reversed the trend, their success is evident.

Little known manufacturer Saiko introduced the SC7000 to Australia. As if the 70 memory channels were not enough to sell it to hobbyists, it boasts unique facility (for its time) to record transmissions. It starts and stops a tape recorder automatically at the commencement and conclusion of the transmission. The first batch of Saiko SC7000 scanning receivers to arrive had a few problems, so if the model you are thinking of buying has a silver backing plate to the keyboard, I suggest you keep looking. The improved model has a black backing plate, as with the Tandy units. The Saiko's size makes it an excellent base scanner.

Just when you thought it was safe to sit back, confident that you owned a "state of the art" receiver the AOR 2001 shattered your confidence. With continuous coverage from 25-550 MHZ the little AOR heralded the age of the super scanner. The 2001 sported features unheard of at the time, a 750 MHZ IF (intermediate frequency) that eliminated images, user-selectable channel spacing on all bands and wide and narrow band FM as well as AM, again user-selectable. The predessor to the AOR 2001 was the AOR 2002, the new model that took scanning into the 21st century scanning from 800-1300 MHZ.

To gauge the market and price of pre-owned scanners, I contacted Lee Andrews of Andrews Communications who would be one of the largest dealers in secondhand scanners. The standard I quoted to Lee to establish the price of each of the examples was a radio in good condition with a few marks on the case; that did not have any internal tamperings; and that functioned as it did when new.

The list is compiled from the now synthesized programmable scanners from the very early days of the hobby to the "super scanner" of today. All those listed are still available, although in varying degrees. The JIL SX400, as previously mentioned, appeared in limited numbers and therefore is maybe harder to find than the Tandy PRO2020 for example.

Speaking of which, the secondhand value of Tandy's scanners is lower than maybe expected, due to the company's discounting policy during sales' promotions. It does not reflect a bad product, quite the opposite.

The quoted prices are an indication only, the actual price you pay will depend on the condition and accessories that accompany the radio you are offered.

The Uniden Bearcat 145XL is a 16 channel model worth about $250 today.

The results are shown in the ready reckoner.

The key to the frequency coverage is:

L Low Band VHF normally 30-50 MHZ
A ... Aircraft band AM, VHF, 108-136 MHZ unless stated
M..... Mid-Band VHF, 68-88 MHZ
H ..... High Band VHF, 144-174 MHZ
U ..... UHF Band, 400-520 MHZ
C . Continuous coverage 25-550 MHZ
8..... Receives 800 MHZ and above

Crystal-locked scanners fetch little today because of the availability of cheap programmable scanners. A crystal-locked unit should cost between $30 to $40 regardless of brand. If crystals are installed add another $10 to the price.

With a little care a bargain can still be found, even today. Good shopping.

Andrews Communications Systems

EST. 1977

BUY DIRECT FROM THE IMPORTER!

uniden

PRO-510E AM-CB.....**$99**
PRO-520E DELUXE **$129**
PRO-310E H/HELD.....**$179**
APX-7 W/RF GAIN **$139**
AX-14 COMPACT AM....**$149**
PC-33X SMALL AM.....**$89**
WASHINGTON BASE **$469**
GRANT DELUXE SSB....**$349**
AX-144 VALUE SSB.....**$299**
PC-122 COMPACT SSB.**$279**
UH-001 VALUE UHF **$379**
UH-007 DELUXE UHF...**$399**
UH-005 H/HELD UHF ...**$499**
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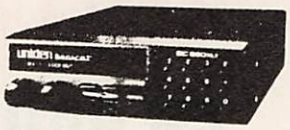

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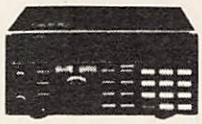

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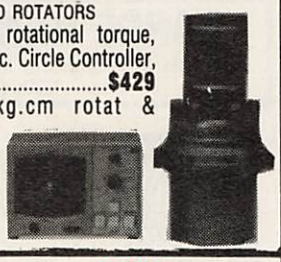

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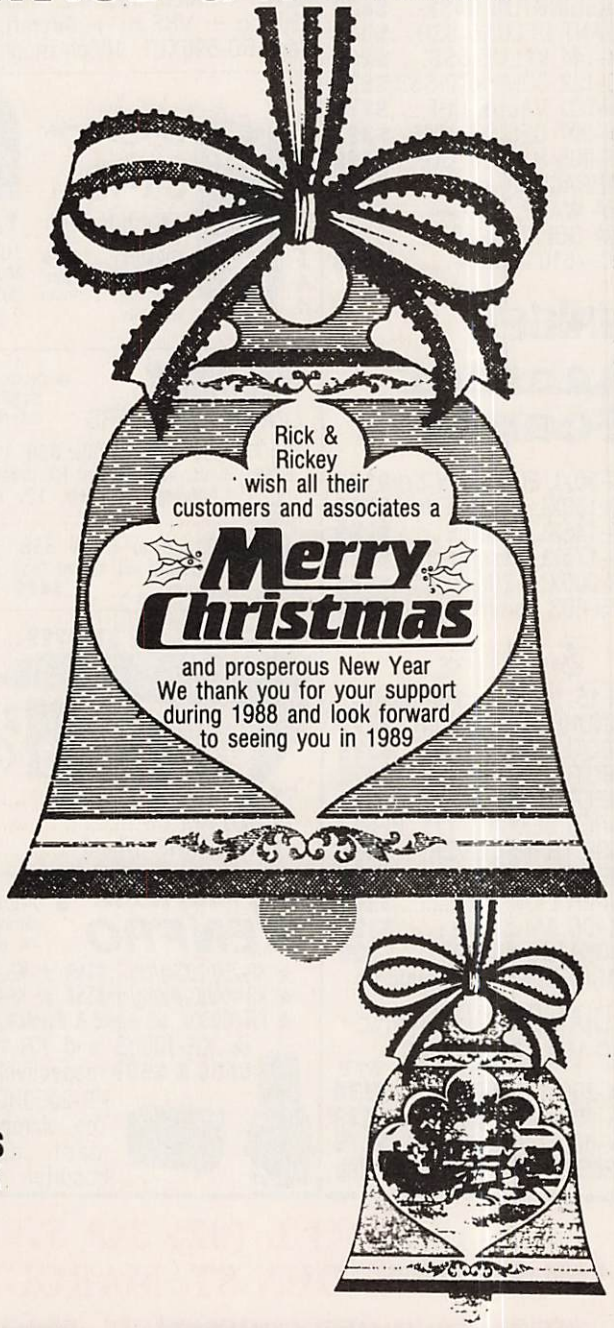

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HARD TO BELIEVE BUT THERE IS

27 MHz CB IN HUNGARY

It might come as a shock to the system, but, CB is also big behind the now rather rusty Iron Curtain. This report is courtesy of Janos Gellert of the Radio Budapest SW Club and if any readers are interested in information about Radio Budapest you can write to Radio Budapest, Budapest H-1800, Hungary. It's unclear whether the service is AM only or also SSB, but, it's an interesting report.

In Hungary the CB era started in the early 1980s.

According to the latest figures of the Hungarian Post Office, there are 95,000 CB radios operated in Hungary, half by private owners, and the other half by various institutions and companies.

This is the result of rapid development, since in 1980 there were only 17,000 sets mainly used by semi-government authorities.

Now anybody can buy and operate CB equipment or obtain the necessary permission to operate CB provided they are of good character. (Someone with a serious criminal record not allowed). The operational conditions and technical requirements for CB, set by the Hungarian Post Office, are in accordance with the 1974 Lisbon Convention of the Telecommunication Authorities of West European countries.

CB IS UNIQUE

A hobby, a service, entertainment and saving life all uniquely merge in CB.

In Hungary, CB has outgrown its initial hobby-like function, and for special reasons it became a relevant part of the communications scene in Hungary.

Although the telephone network in Hungary represents a world average, it is below the general European standard — and a public "Radio Telephone" network has not been established.

CB is indispensible in public and freight transport, in production and especially in agriculture and in contacts between small, remote settlements.

Many people buy CB radios when they lack other communications, to keep in contact with their family and friends. People who are old, ill or handicapped maintain contact OR if need be, ask for help via CB.

In 1983 the 'Association of Hungarian CB Radio Owners', which is six years old this year, created a CB help service network, which met a wide public demand.

Apart from the Budapest centre there are 61 (24 hour) CB help stations in the Hungarian countryside. In keeping with international practice, channel nine is reserved for the help service.

It receives thousands of calls a year, which are passed on to the police, fire and ambulance services through direct lines. Since, after the initial attempts, the uneconomic production of CB radios was phased out of Hungary, the majority of sets are now imported.

KEEN CBers WELCOMED

Keen CBers are welcome to bring their CB radios to Hungary. If the set operates in the 26,965-27,405 MHz range and does not exceed five watts AM you only need to declare it to customs at the frontier crossing point.

However, if you intend to stay in Hungary for more than 30 days, or the frequency band or power output differ, it is necessary to obtain prior permission 60 days in advance.

Send photocopy of licence and info on your CB radio plus, if using in a car, the registration of vehicle to Hungarian Post Office, CB Inspection and Control Dept, Budapest H-1540, HUNGARY.

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ROB WILLIAMS INTRODUCES

HF UPLINK

Hi, welcome to the latest column for CB Action. In this column I'll provide some useful DX tips from international radio stations, tips on listening to utility stations and even some information on broadcast dxing.

Let's get things going. Remember all times are in UTC(GMT) and all frequencies are in Kilohertz. International broadcast stations are in AM and utility stations are in SSB.

Radio New Zealand

Effective from 28/10 until 4/3, Radio New Zealand will broadcast to Australia at the following times and frequencies:

0900 to 1115 on 9850 and 12045, 2245 on 15150, 0230-0630 on 15150 and 0045 to 0230 on 15150 (Saturdays and Sundays only). To the Pacific at 1730-2015 on 12045 and 15150, 2245 to 0045 on 17705, 0230 to 0630 on 17705 and 0045 to 0230 on 17705 (Saturdays and Sundays only).

Radio New Zealand has had an identity crisis for many years as lack of funds has stopped it from replacing obsolete equipment. Many international short-wave stations broadcasting to this area use greater than 100Kws, however RNZ has continued to use out-of-date transmitters of only 7.5Khz.

A few months ago there was talk of the BBC wanting to establish a relay station in NZ, however nothing has come from the talks yet. But from 1/7/89 the NZ government will start to pick up the funding for RNZ. This could bring the service back to life!

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Radio Australia to broadcast cricket

Each year during our summer months Australian cricket plays host to international cricket teams. As cricket has a big following in India and the South East Asian region Radio Australia will be broadcasting the international cricket matches live.

Radio Australia plans to use the following frequencies — 21740, 21525, 15415, 15285 to Asia and 9580 to the Pacific.

Dx programs — which ones to listen to

If you are interested in keeping up with what is happening on the short-wave bands you need to listen to some dx program broadcast from various international broadcast stations. Listed below are just a few of the more popular dx programs together with details of when they are broadcast. See which ones you prefer.

Thursday — Radio Nederlands 0745-0830 on 9715 and 9630. Either frequency is suitable to listen to. They rebroadcast the same program again at 1045-1130 on 9505 and 6020 with 9505 being the better frequency.

Saturday — KTWR-Guam-1000-1015 on 11805. VOA-1010-1030 on 5985 and re-broadcast at 1210-1230 on 9760. RCI-2130-2200 on 17820, 11880 and 15150. Here in Sydney 11880 offers the best signal. Even though the transmission is intended for Africa we get a good signal around this time each year.

Sunday — Radio Australia-0730-0800 on 5995, re-broadcast at 1230-1300 on 5995, BBC-0750-0800 on 9640, 15360, 11955 and 7150 and NHK-0925-0945 on 11840 and 17810.

Tuesday — BBC-1115-1130 on 9740-rebroadcast on Sunday night's program.

There are a few I have left out but these will get you started.

Red Cross broadcast

Through the facilities of the Swiss PTT & Radio Switzerland the Red Cross Broadcasting Service has the following transmissions in English to Australia. On the 31/10/88 and 3/11/88 between 0740 and 0757 on 9560, 13685, 17830 and 21695. You can obtain a QSL and a copy of its current schedule at the following address. Return postage would be appreciated.

Red Cross Broadcasting Service,
17 Avenue De La Paix,
CH-1202 Geneve,
Switzerland.

The Red Cross is the only organisation in the world to have a radio frequency permanently allocated internationally for broadcasts. 7210 is reserved for the Red Cross so, that in times of war, messages can be broadcast about POW's and civilians.

Monitoring aircraft on HF

Most people with scanners have listened to aircraft flying around airports and up to a few hundred kilometres away from their location. But what happens when aircraft are out of range of a VHF/UHF repeater? Well, the pilot switches to HF and using one of several available frequencies in use in the area he is flying through, he can continue communicating with air traffic controllers.

Australia is divided up into seven regions for HF communications. These are as follows:

North West-3461, 6604, 8900
South West-3461, 4684, 6565, 8822
South Central-3461, 4693, 6580, 8858
South Eastern-2869, 4678, 5526, 8876
Central Eastern-3452, 6610, 8831
North Eastern-3452, 6616, 8891
North Central-3452, 6541, 8843

Remember during the day higher frequencies tend to be used and at night lower frequencies are used. Also during high sunspot periods higher frequencies propagate better.

For example here in Sydney, Mascot airport uses 8876 during the day and 5526 at night. This makes interesting listening too when you want to track an aircraft from one location to another which is outside VHF/UHF facilities.

Of course the same thing happens when flying from one country to another. As the aircraft leave VHF/UHF range they switch over to an international HF frequency. The world is divided up into Major World Air Routes (MWARA) with each route having several HF stations to control the movement of aircraft through its MWARA.

One interesting zone to monitor is what is called the "South Pacific 6". This is made up of stations in Auckland, Nadi and Sydney. Three frequencies are currently in use. During the day 8867 is the primary channel with 13261 as the secondary or back-up channel. At night 5643 becomes the primary channel.

Volmet stations

Through an international agreement weather details are broadcast via volmet stations located around the world.

Volmet is a French word for aviation weather.

The world is divided up into various regions and several stations in each region provide around-the-clock weather details.

Here are some of the easy-to-hear stations.

On 2863, 6679, 8828 and 13282 volmet stations for the Central West Pacific, Central East Pacific, South Pacific and North Pacific can be heard.

At 00-05 and 30-35 minutes past the hour-Honolulu volmet transmits. Then between 05-10 and 35-40 minutes past the hour Oakland volmet transmits. The rest of the stations together with their transmit times are as follows:

10-15 and 40-45-Tokyo Volmet, 15-20 and 45-50-Hong Kong Volmet, 20-25 and 50-55-Auckland Volmet and 25-30 and 55-60 Anckarage Volmet.

The South East Asian region is as follows:

00-05 and 30-35-Sydney Volmet, 05-10 and 45-50-Culcutta Volmet, 10-15 and 40-45-Bangkok Volmet, 15-20 and 45-50-Karachi Volmet, 20-25 and 50-55-Singapore Volmet and 25-30 and 55-00-Bombay Volmet.

Have a go at these stations, especially during times of severe weather conditions in the area of the broadcast.

A move for VNG

On 1 October 1987, VNG, Telecom's time signal station, ceased transmission from Lyndhurst in Victoria.

Telecom was reluctant to operate the service due to the costs involved in maintaining it.

However, as there was a strong demand from the scientific community for someone to take over the service, the VNG users' consortium was formed to raise the necessary funds to take over the operation of VNG and relocate the transmitters.

The facilities of VNG were removed to the Civil Aviation Authority transmitting station at Llandilo, in the western suburbs of Sydney.

Originally VNG operated three transmitters each of 10kw on 4.5Mhz, 7.5Mhz or 12Mhz. At this stage the first transmitter has been installed and began testing. However testing had to stop a few months ago due to interference to users on 4.5Mhz. (I wonder where these stations were when VNG was operating from Melbourne?) Word has come to me that they now plan to start transmitting on 5Mhz at 0000 on 1/11/88.

For more information you can write to the Secretary of the VNG Users' Consortium, Dr Marion Lieber, 26 Finister circuit, Kambah, ACT. 2902.

All India Radio

A.I.R., during October, is broadcasting to Australia at the following times — 1000-1100 on 15335 and 11860 and 2045-2230 on 9550, 11715 and 9910.

RCI via Japan

Radio Canada International is now using the facilities of Radio Japan at Yamata in Japan to broadcast to South-East Asia. During the D-88 transmission period it plans to broadcast at the following time. 1200-1229 on 17710 and 15385.

Relay station news

Current trends among international broadcasters is to swap time on each other's transmitter facilities. This is a very cheap alternative to the installation of their own transmitters on foreign territory.

The latest station to announce a swap of air time is Radio Austria and Radio Canada International.

The swap in air times is expected to commence on 2 April 1989. RCI, via Radio Austria, will broadcast to the Middle East between 0300 and 0500 and Radio Austria, via RCI, through its Sackville transmitters between 0500 and 0700.

Well that's it for this month. If you have any questions about what I've put in the column or want to know more about the hobby drop me a letter with a SAE and I'll do my best to answer any questions you may have. I would also be interested in hearing from you if you have any notes you would like me to include in the column.

My address is:

PO Box C111
Clarence St,
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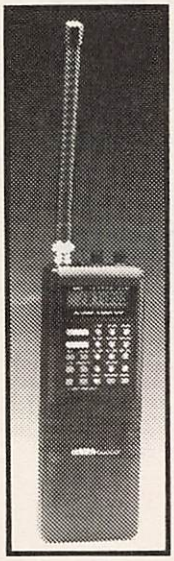

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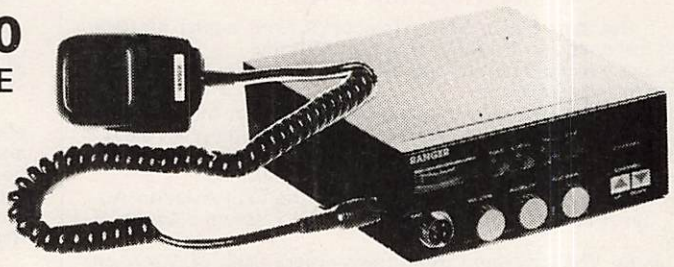

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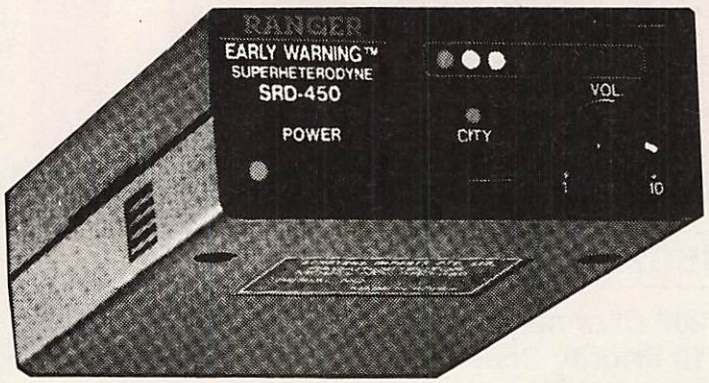

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IDEAL EQUIPMENT FOR JAMES BOND

THE IC-U16 HANDHELD

It isn't for your average UHF CBer. But then, it isn't your average UHF CB. David Flynn reports.

"Now pay attention, 007. This is the very latest in UHF radios, and is now being issued as standard equipment to field agents. Q Branch has already programmed it to receive all local police channels, and transmit on UHF amateur and citizen band repeaters, simplex channels, and of course our own special frequency. It has a five-watt output, with scanning and priority functions, DTMF and programmable subtones. Your attache case has a complete range of accessories, including an adaptor for the Aston Martin. And 007 — try and bring it back in one piece for a change!"

A fanciful dream? The scenario is illusory, the characters legendary but still fictional. But the radio is, as they say, 'a true story'. Meet the astounding super UHF handheld.

Of course, it's from Icom. And yes, it is expensive — almost twice the cost of a Sawtron 999. But the IC-U16 is without doubt the one handheld which makes it easy to run short of superlatives. Guaranteed to leave you shaken, if not stirred!

Is it the ultimate UHF portable? Having only a 16-channel memory, you are forced to answer no, and then quickly find yourself making excuses. If someone gave you a Ferrari, would you complain that red isn't your color? Or, more realistically, knowing Icom, it won't be long before it can squeeze in 99 channels and a color TV screen.

So, don't dwell on what the IC-U16 can't do. Instead, look at what it can do, and does brilliantly.

Each of the 16 channels can be programmed to any frequency between 400-500MHz. Each channel can be given its own repeater offset, individual transmit and receive CTCSS tones, time-out and (if desired) transmit inhibit. The entire group can be scanned, with per channel lock-out, and any channel designated as priority.

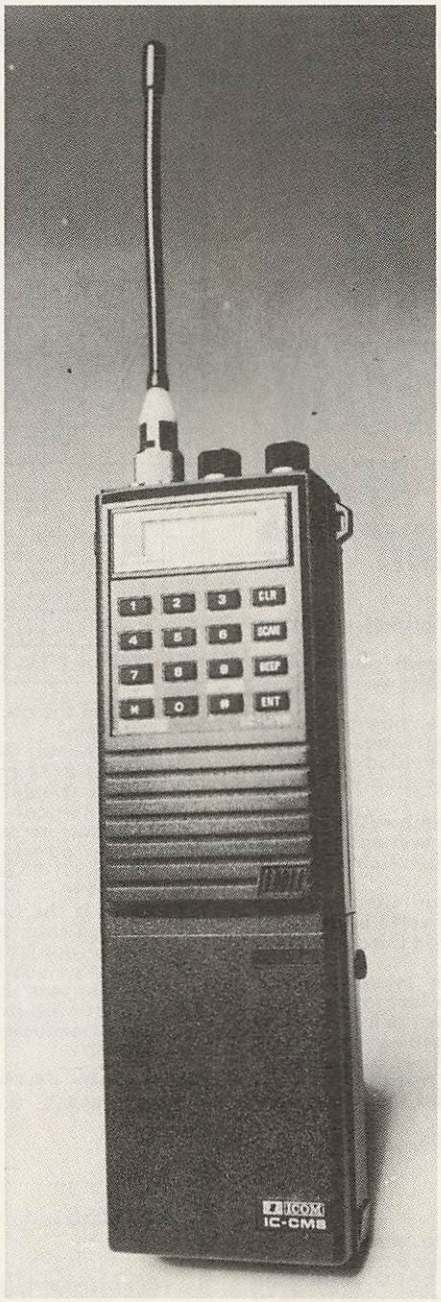
Should we have titled this report 'The pirate portable'? Fear not, dear DoTaC, and the rest of you can put away your plastic cards.

There are two versions of the IC-U16. The 'master' model is fully-programmable to do all the tricks described above, and is only available to selected Icom dealers. Customers purchase the 'slave' unit, which is identical in appearance but cannot be user-programmed apart from scanning and priority operations.

REQUIREMENTS ARE PROGRAMMED

The requirements of each customer are programmed into the master radio by the dealer, and then are dumped by wire into the EPROM of the slave — a process Icom calls 'cloning'. If the customer needs at any time to change his or her unit (for instance, changing subtones or adding a new channel), it must be returned to the dealer and re-programmed via the master.

This is what gives the IC-U16 flexibility without illegality. The user must hold a licence for each transmit frequency programmed, although of course you could set the radio to receive-only on other channels.



So who'd buy such a handful of technology? Emergency organisations, who need to keep an ear on police and rescue services. Or security firms, many of whom still use UHF CB in addition to a private channel, and can now combine a commercial handheld, 477MHz rig and scanner in one package — at a much lower cost. And maybe the odd enthusiast . . .

The IC-U16 supplied to me was programmed to my own specification — pretty much as described earlier. In went the local 477MHz repeaters and some favored simplex channels, plus the city's UHF amateur repeaters (after providing a copy of my amateur licence).

EXCELLENT PERFORMANCE

Performance was no less than excellence you expect from Icom. With five watts, switchable to 0.5w low (or almost any other combination using Icom's range of battery packs), the IC-U16 has the same punch as any 477MHz mobile, and a receiver to match. Being designed as a commercial radio doesn't hurt, although all Icom radios tend to exhibit the same outstanding construction and engineering quality.

Another innovative feature of the IC-U16 is that it allows the user to select his or her own channel 'number' on the LCD display. So, although UHF ch 4/34 remained as '4', Sydney's police special op's frequency was labelled '26' (its official VKG designation). This information is also cloned from the master unit during programming.

Other models in the IC-16 range include the H16 (high-band VHF), H16T (with individually programmed 5-tonne selcall), and the A20 — an air-band unit with degree bearings (for direction finding and location fix) for VHF beacons. Plus the 25-watt remote-mounting IC-U400 mobile.

Okay, we get to see and play with almost every sort of radio here at CBA, but few have caused as much regret in parting as did the IC-U16 — especially to a confirmed UHF fiend like me. Still, it will soon be time for wishes to come true.

Dear Santa . . .

WE GOOFED SO YOU GET TWO CHANCES TO WIN THE LEOPARD MK3 UHF RIG

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CB ACTION/HATADI ELECTRONICS CORPORATION PTY. LTD.

WORDMAZE COMPETITION

WIN A BRILLIANT NEW LEOPARD MARK 3 UHF RIG

Sorry, very sorry, humble apologies and grovel, grovel — ok, that should just about do it.

Following a few hundred (maybe thousand) 'phone calls, we now fully realise that we made a mistake with our last Wordmaze.

Question six asked for the surname of a contributor and this should of course have read 'Christian' name.

In fairness to all our readers, we have decided to run the same Wordmaze, but, this time minus question six, in the current issue.

All entries received from our last (November/December) issue will be included in the final draw as will entries from this current issue, however, with the entries we already hold we will delete question six.

This means that everyone gets a second chance at the great prize and those who didn't both to send in an entry from our last issue because they couldn't find the surname in the maze aren't left out.

This month's competition has as it's prize the new Leopard MK3 UHT reg as reviewed in the last issue.

It's not hard to win — we've hidden 9 words in the maze, the answers to which can be found in this issue of CB Action.

The answers can run in any direction — horizontally, vertically, diagonally — and also back to front.

Find the ten words hidden in the maze and post your entry to:

CB ACTION/HATADI ELECTRONICS
CORPORATION PTY. LTD.
WORDMAZE COMPETITION
GPO BOX 628E
MELBOURNE, VIC. 3001

The closing date is January 10 and the winner will be selected from all the correct entries received by that date. The draw will be conducted in the offices of CB Action and the results and solution will be published in the next issue of CBA.

The winner will be notified by mail.

U	A	I	B	X	D	P	G	T	E	E	A	E	S	B	J
H	**A**	**T**	**A**	**D**	**I**	D	N	E	L	R	A	I	Q	A	E
J	I	E	E	F	H	P	B	O	P	Z	F	F	C	O	T
M	O	I	N	R	A	P	O	U	X	R	A	K	D	X	B
M	U	I	H	A	E	E	N	J	E	T	N	E	G	R	A
A	E	G	P	Y	B	D	E	D	E	A	F	G	T	N	M
S	A	V	N	N	Z	A	O	C	Q	D	R	H	X	I	A
X	E	O	Z	E	V	M	O	H	L	E	Z	O	Z	E	H
E	S	P	Z	S	Q	X	J	J	G	B	A	A	K	E	N
H	O	J	Y	E	H	A	X	V	B	E	O	Y	J	N	E
A	B	E	L	E	C	T	R	O	P	H	O	N	E	A	T
O	S	E	X	S	H	A	I	I	D	Y	E	Z	C	Q	L
I	K	E	I	Q	V	O	F	F	L	U	D	E	K	N	E
E	I	O	Z	O	I	U	B	E	R	J	E	A	E	K	H
B	R	Y	A	N	T	D	A	R	Z	T	E	U	R	B	C
F	E	N	I	W	R	O	D	E	Y	Y	G	Y	E	B	B

1. **Who is the contributor who writes Scanning Action — surname?**
2. **(First name) Communications had been given approval for the 2/32 channel repeater in Sydney?**
3. **Who is the definitive disastrous CBer featured in one of our columns?**
4. **Wh (first name) supplies the UHF news to us?**
5. **One of our rig reviews in the Nov/Dec issue was the (name ??) TX830.**
6. **Forget it . . . it doesn't count!**
7. **What is the first name of the 67-W-07?**
8. **In what suburb would you find the receiver (the answer was in our Nov/Dec issue).**
9. **What company builds the ICF-SW1 receiver (the answer was in our Nov/Dec issue).**
10. **This contributor was late with his copy for the Nov/Dec issue because of a fire in the kitchen — what's his first name?**

WORDMAZE Competition. I agree to abide by the judge's decision.

NAME.....

ADDRESS .....

.....

TELEPHONE NUMBER.....

SIGNATURE .....

Greg Towells reports on. . .

UHF NEWS and HAPPENINGS

Welcome to UHF News yet again. For anyone intending to submit info for this column, please take note of the NEW ADDRESS — PO Box 514, Toukley, NSW 2263, and please ensure that all mail reaches me no later than two weeks after the magazine hits the stands. And above all, have a safe and happy Christmas and New Year, and keep those UHFs rolling.

Things have been moving rapidly, at least on the UHF repeater front. As Rod Fewster mentioned in his last column, repeaters are multiplying like rabbits around the country. For this reason, the 'up-to-date' repeater listing may not seem that way by the time the magazine comes out. I depend heavily on you, the users, to notify me of changes, so that everyone gets a listing as up-to-date as possible. If you hear of changes in repeater location, channel or sponsor, please let me know at the above address!

Good to see 2/32 Sydney finally operating, after an extensive testing period. Congratulations to Argent Communications, the sponsors, for its double-quick action in getting the 'metro repeater' on the air. I have heard of excellent reports from 2/32 from all over the place around Sydney. Unfortunately where I am now located on the NSW Central Coast, I must be one of the few who can't access it. Looks like 'come on up multi-element beam'!!

Lots of new repeater installations to report. It is rarely possible these days to be in a location and not be able to access at least one repeater, and it's quite common to be in a position to be able to access at least one repeater on all channels. A far cry from the days a decade ago when the 'experts' knocked all efforts to kick-off the repeater movement.

NEW REPEATER AT HAY

A new repeater for the Hay NSW district has been established by Phil Shields Electronics. Callsign is HAY-04, and has an operating radius of around 60kms. No need to worry about power strikes with this one as it is solar-powered.

The Cooma area, in NSW, has a new repeater with the call of SOU-01, operating on channel 4. Sponsored by Blamal Communications, the unit consists of an FM-828 and is situated some 16kms south of Cooma. Reports of range include from outside Canberra to Jindabyne, Perisher.

Information regarding the Broken Hill UHF scene and repeaters comes from Paul, the Public Relations Officer of the Broken Hill UHF Club. The club was established in August '87, and work commenced on the establishment of a repeater for the area. The licence was granted in December '87, the callsign being THA-04, and the repeater was located in the Thackaringa Hills, some 30 kms west of Broken Hill. The repeater consists of a Kyodo KG 105, with tower and hut donated by the local mining authorities.

At first teething problems were had with THA-04, with the PA stage getting warm and the ID board de-sensing the receiver, but all that has been rectified. Paul points out to anyone else with a Kyodo KG105 that the unit does get rather hot, so he installed a 4.5 inch brushless fan to keep it running cool.

SECOND LICENCE FOR BROKEN HILL

The club has just been issued with its second repeater licence. The repeater has the callsign GLH-07, and will be located at Glen Lyon Hill, 50kms south-east of Broken Hill. GLH-07 will cover the area east and south of Broken Hill, while THA-04 covers west and north-west of Broken Hill. Between these two repeaters, coverage will extend over some 300Kms of the Barrier Highway, which will greatly benefit travellers.

The Broken Hill UHF Club Inc is planning a further repeater to be located some 70kms north of Broken Hill and is awaiting approval to commence operations. Thanks for the info, Paul and congratulations to the club for all the hard work that has gone into all these repeaters.

Now for a number of alterations to repeaters around the country. Many of the letters received came just after the deadline for the last repeater listing. Now you know why!

Manjimup WA repeater 8/38 is sponsored by the Manjimup Community Radio Service, ident MAN-08, and is located at Glenoran.

The Middlemount 1/31 repeater in Queensland is sponsored by Middlemount SES, and is located at Middlemount Hill.

The Clermont Qld repeater is opeating on channel 7/37, not 1/31, and is sponsored by Clermont SES.

The Bairnsdale Vic repeater is now sponsored by the Gippsland Repeater Association (another one!).

Alan, from Outward Bound Australia, reports that the channel 7 repeater at Wagga is set to change channel 1, because it and Outward Bound's repeater at Brendabilla ranges can be accessed simultaneously by many people in the area. Apparently the district RI in Wagga requested this change rather than have many other repeaters change to allow Outward Bound's repeater to change from channel 7. Interesting to note that the Wagga RI also requested the Department to allocate more channels for repeater use. Join the club!! I wonder how long it will be before whole areas in many states reach saturation point with repeaters (the ones that are not already!).

The Barossa SA district repeater on 4/34 is sponsored by the Barossa District Repeater Association and is located at Mount Rufus in the lower north of South Australia.

As mentioned in Queensland Scene last time, the Ipswich Repeater Organisation has pressed into operation its repeater on channel 4/34, located at Rosewood.

For all those people who have wondered where the Yelta repeater in Victoria is, standby for the answer. Yelta is the high point for the repeater but the district is the Sunraysia area around Mildura. Apparently Yelta is a small 'area' with a wheat silo, rail riding and a repeater and is not widely known even by locals. So there you have it! The repeater itself consists of an FM828 with an AEA diplexer donated by Philips, Adelaide. The repeater was installed and is maintained by Peter VK3ZPN, of Ferguson Security and Sound. Thanks for the info.

Lots of news from the Omega club of Melbourne. Sorry I'm late with some of it, but moving house tends to create a degree of disarray. At its annual general meeting, the Omega Club awarded its 'Golden Yagi' award to Clarrie (VAQ 593) of Sale, Victoria. The 'Golden Yagi' award is presented to any organisation/individual for services to the CBers in general or UHF CB in particular. The award to Clarrie this year was for 'his driving force and leadership in inaugurating the repeater network of channels 2 in Moe, 06 at Mt Fatigue, 07 at Bairnsdale and 01 at Mt Nugong in the Latrobe Valley, and the establishment of the Gippsland Repeater Association Inc.

CHANGES IN VICTORIA

Some more repeater changes in Victoria, info courtesy of Omega Radio Club. Philips Communications Systems has relinquished its licences for both MEL-01 and MEL-03. MEL-01 is now in the capable hands of the Omega Radio Club, and MEL-03 in the able care of the Wireless Institute of Australia, Victorian Division. Interesting . . . a few issues ago it was reported here that the rumor was about that this was about to happen, the info coming from WA, but at the time Philips flatly denied all. So when are the other Philips repeater licences going to be relinquished??? I'm sure that more than a few Sydney UHFers would welcome other licencees taking over current Philips repeaters and correcting the short time-outs, long tails, and sundry other nuisance features. Any comments?

Finally, the Geelong Amateur Radio Club now holds the licence for ANK-01, at Mount Anakie, near Geelong. The club is looking for donations to help purchase equipment which is currently on loan. The club's address is PO Box 520, Geelong, Vic 3220. All users of this repeater should consider donating something, no matter how small.

An advertisement in 'The Age' on 26 March, places HAM-05 on the market for $1500. This repeater previously gave service as Hamilton's 5/35 emergency repeater. So it seems, given no other info, that no 5/35 repeater now exists in the Hamilton district of Victoria. Also advertised was a licence issued for BAL-05 for the Ballarat district. The location on the licence would be almost line-of-sight to Melbourne's MEL-05, however no repeater yet exists there.

Could give good coverage in an emergency to be able to access both repeaters!!

SYDNEY SCENE

by Steve Griffin

First cab off the rank this issue is aimed at all those who use, or have used, FM in the 26-28Mhz range. I know that there are many of you out there and I know many have already contacted me, but, now I need users comments and opinions on FM in this spectrum. In the next issue or two we plan to give you some inside info from those who already use the mode.

David Flynn has asked me to obtain user's comments from as many as possible so that we can get some averages up and running.

The info you supply should include things such as the equipment you use, the frequency you usually use, what reason made you first use FM, etc. Actually, anything you can come up with along those lines would be a great advantage in compiling the report.

I realise that many of you would rather remain anonymous, judging by many of the previous letters, but please write anyway. Those who have written to me in the past realise that all the letters I have received are treated as confidential, but, if you don't want me to have your name and address, so I can get back to you then the best thing is not to include it.

I hope those of you from Tassie, Vic & Southern NSW (and all the others in your little groups) that have previously dropped me a line will send me some more info on their experiences.

Actually, I think it might be a good idea to also ask for opinions against the future FM service. I'm sure there are some of you who may not wish to see this service start up, so tell us why.

One little thing that I have to ask is that you try and get your letters in no later than January 10. This is because of the funny deadlines we have to put up with — particularly around the Christmas period.

You might as well say that the start of my column this issue is like a mini survey, well you would be right. I recently had a well known technician ask me to find out if anyone would like the idea of a Dear Tech type column in this mag, so readers, there's another question, and better still, is anyone willing to send photos and a list of their base station equipment and countries spoken to via skip.

I believe this may eventuate into some form of competition and a prize may be offered for the best home-base and another offered for the best skip-worker. Keep in mind that if you enter the skip competition you will need to prove your contacts — keep an eye out for this one and get to work on your base and antenna and see how many you can work.

As skip conditions are pretty good at this time of year it will not be too hard to have a few aces up your sleeve before the next issue. Keep an eye out for more on this subject.

334MHz UHF CB SERVICE?

Rumour also is that the subject of a 334Mhz UHF CB service still appears regularly on the desk in Canberra. The system, based on the Personal Communications Band in the United States seems to be yet another discussion point for competition with the overpriced Aust Mobile Phone Network. Apparently many mobile phone users complain that their rates are too high. The initial cost to set-up is bad enough but the running costs are a killer. The US started with very similar problems, but, when other alternatives came thick and fast, the market soon had a turn around.

The overall market in the US is now priced more realistically — I wouldn't even think of mentioning prices because I think it might make people see a little daylight!

I can just imagine what most of you are thinking, 'but our system is different', but hold on, if we all found a good alternative, do you really think the prices would stay the same. I don't!

Many familiar names send me their price lists and keep me up to date on the latest gear and even they seem to be settling into better price structures. At least this will give the trade a fair go. I'm sure dealers here in Sydney will be glad to get away from this continuing price war and settle in to some serious stuff.

Many of them are just making ends meet and continually scrape the bottom of the barrel to try and be just that one step ahead.

POOR CUSTOMER RELATIONS

I don't know if I'm silly but if I had a retail business I would try to be courteous and as helpful as possible. I also try and help as much as I can with the written enquiries I get through various articles that I do.

I answer letters this way because that is the way I would like to be treated. I'm sure most of my readers would feel the same. Why is it then that some businesses treat you like dirt?

I get numerous letters from readers saying that they get no response from dealers unless they are there in person. One letter from a woman recently complained that her cordless phone had been back to the place of purchase, by mail, three times for repair and the last time it wasn't returned.

After a few weeks she decided to write to find out what was going on. She received no answer so she telephoned STD, only to be put on hold for more than ten minutes.

Finally the response came back on the phone that it would be sent back to her within seven days. . . .this was the 3rd October. . . .and still no phone. Another letter states that after waiting several weeks a mail-order customer decided to write to a magazine to see what had happened to his order (and $35).

The gentleman ordered a computer-hardware item and software to suit. After his letter, dated in June '88, he received the software but no hardware. He then telephoned and questioned the problem. . . .the response Out of Stock.

This was the response in July...and August...and September...and at the end of October he said to the salesperson that he would like a refund. He stated that the software was no good without the hardware. Then the salesperson said that there was no refund for any of the software that they sold. The worst part is that all that time they continued to advertise the same product.

In a last effort the gentleman, who lives in Queensland, contacted his son, who lives in Sydney, and asked him to drop in and see if he could hurry things up a little. This obviously didn't work either. The son was told that $10 would be sent to his father, but, at the time this article was written, a refund hasn't been received, and better still nothing has been said about the item at all...yet it's still advertised.

I saw the ad, in the respective magazine, myself. Maybe I should start an in-depth Willisee type thing. Many of my friends and associates say I would suit that part quite well.

POWER MODULES — CHEAP!

I mentioned a little something about power modules in last issues and got quite a response. After the first few enquiries came in, I decided to approach the supplier and do a bit of bargaining. So if you want one of these 'hot little items' send a money order to me for $95 which includes postage and I'll send one to you.

The normal retail would be around $120 + postage but its amazing what a little persuasion can do. All units will have a warranty but quantity is limited at this stage...so get in quick! If they run out, have no fear as your money will be returned immediately.

Just send details of your radio and address, etc. and you will hear from me ASAP.

Here's a couple of late items...no not from Graham Kennedy.

PIRATE FM BROADCAST STATION

First there's a new thing happening in Sydney — Pirate FM Broadcast Radio Stations. Obviously somebody has misunderstood my previous issues column and has written to inform me of someone he knows that owns and operates an FM radio station.

Yes, right up there near our own 2MMM or 2DAY FM there could be an illegal radio station. Nothing has been mentioned in the DOC's Newsletters...but then again maybe they don't know...shame!

Obviously this person enjoys a life of piracy. What could have the sound of a community station could be a neighbour operating his modified commercial or ham radio. Think about it for a minute. . . .ultimate satisfaction providing music of your own tastes to anyone who cares to listen.

This station is on air every night till early hours of the morning playing music from their own private library. They apparently have a couple of DJ's and a good selection of one line jokes.

They use a callsign and even state the time. According to the letter they even have the odd sponsor who pays them a couple of dollars to blab their name over the air with a quick description of the services offered. This is something I would probably take an interest in...if I had the time.

I believe that the equipment is available at next to nothing and all you would need is a good antenna and a good on air voice. Of course this cheap equipment wouldn't be stereo and not very highly powered but then again neither are some of the community stations.

Don't get me wrong, I'm not trying to promote this sort of thing but I sure think it sounds like fun. If anyone, anywhere, knows of a pirate FM Radio Station, drop me a line with some details and I will give it a little mention.

MOBILE CH. 2 REPEATER

Somebody found out that there was a phone-patch set up on CH.17 UHF here in Sydney and also found out how to get its number. You guessed it, lots of international calls were made and received...must not forget the local calls made as well!

Apparently the service was owned/operated by a local business...until they found out of course. Now there's not as many people on ch.17...funny that!

Another UHF item is some info on the Pirate Ch.2 repeater.

The repeater is still up and running around from place to place, last I heard it was up in the Windsor area.

Apparently the unit is very versatile and can change from channel to channel without too much effort and has a good power output.

A funny little rumour is that it runs a couple of very early Pearce Simpson UHF sets...I wonder?

Anyway the anonymous letter states that it still out performs a certain other Ch.2 repeater. I still don't think the licenced one would even come close to the reputation this one is getting.

Keep thinking about pirate FM radio stations...sounds good. If you hear of a station near you please let me know, I'm interested.

One last request is from South Coast NSW. An associate, and good friend of mine, would like to get as much information as possible on the Alpha Tango DX Group. It is not known if it is a recognised club or just a group of skip-workers.

If anyone knows any info on this group please let me know so I can pass it on. The group seems to have quite a large number of members in many parts of the world and I'm sure it isn't too much to ask.

CHANGE IN EXAMINATIONS

The latest behind the scene tips are that the Amateur Spectrum examinations are about to be given a bit of a shake-up. Rumour has it that licences are going to be within reach of everybody.

Tests are going to be more realistic and provisions made for the people with handicaps that restrict their turning up on exam days. The WIA (Wireless Institute of Australia) is looking at appointing certain Amateur Radio Clubs as their representatives.

These groups will be able to teach their own classes as well as examine their pupils in a similar format to the typical school routine. If sufficient clubs qualify for this type of procedure, then there will be a definite increase in the number of Novice, Limited and Full Call operators.

I suppose most will see it as a membership drive and I believe the reason does actually run along those lines. Even though this may be the case, I believe its probably the best thing that the WIA has ever done. There are some people out there that could really help the bands get back to the dedicated hobbyist and not just a giant playground for ratbags.

OK, there are some basic procedures, but it's not really all that bad. I believe that there will be a little more flexibility with the formalities and a genuine approach made to make one feel a little more relaxed.

So now may be the time to approach your local Amateur Radio Club to see if you can get in on the act. With literally thousands of frequencies to use, and a new world of people to talk to, what the hell, give it a go.

A little more info has just been given to me about a 900 odd Mhz service as mentioned previously. The source (that is usually very accurate), claims that the DoTac has been toying with the idea of not renewing licences for the various services that already exist on frequencies around that band.

Nobody knows what they are going to do with the extra space and I bet they probably don't either.

Rumor has it that there will be a big shuffle in the 850-933Mhz range and if all goes well we may even get a cut — hope so anyway.

RANGER AR3300 FOR 10m

One last thing is an interesting little radio that passed under my nose recently. The Ranger AR3300, an Amateur Radio from the USA with great potential.

The unit is available in two versions, 30W & 100W. The initial design covers 28-30Mhz (10 Metre) and is a great size for all mobile and/or base applications. I'm not sure if this radio will ever be available here in Australia.

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4. Super Cheetah Mk II.....$319
5. Super Puma Special.....$229
6. Electrophone TX-840.....$299

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1. Uniden PC225.....$199
2. Uniden Pro 310 H.H.....$189
3. GE 3-5808.....$139
4. Electrophone TX820.....$129
5. Uniden Pro 510.....$129
6. Uniden Pro 520.....$149
7. Super Cougar MKII.....$109
8. GE 3-5828.....$189
9. GE 'Help'.....$139
10. PC33.....$129

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1. Electrophone base mic.....$79.95
2. H/held power mics.....$39.95
3. Standard h/held mic from.....$22.95
4. SWR metre from.....$29.95
5. SWR meter and matcher from.....$45.95
6. Antenna matcher.....$29.95
7. Extension speaker from.....$22.95
8. PA horns.....$19.95
9. Low pass filter JD150.....$59.95

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TX5500.....$495
TX150.....$349

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1. NEW Uniden UHF H/held.....$499
2. TX-475 2.5W H/Held.....$639
3. NEW Sawtron 999.....$759
4. Uniden Sundowner.....$375
5. Leopard.....$349
6. Saiko SC7000 Scanner.....$599
7. Bearcat XL100 H/h scanner.....$359
8. 4dB non ground plane antenna.....$28
9. 6dB gutter mount antenna.....$89
10. UHF 10dB base antenna.....$150
11. UHF 12dB base antenna.....$179

MARINE RADIOS
1. Uninden Barracuda.....$279
2. Pearce-Simpson Sea Wolf.....$159
3. GME GX284 AM.....$189
4. GME GX282 SSB marine.....$259
5. Uniden Dolphin MC2700.....$149
6. Uniden Sea Wasp MC4300.....$169
7. Uniden AX55.....$179

SCANNERS
1. Saiko SC7000.....$599
2. Saiko SC8000.....$399
3. Bearcat XL100 H/H.....$359
4. Challenger BJ200 MK2 H/H..$399
5. Bearcat 200XLT.....$499

SCANNER AERIALS

'BACK TO YOU...'

Letters from readers are welcomed. They should be type-written and present an interesting viewpoint.

WHAT ABOUT SOME RIGHTS?

We CBers are indeed a long suffering bunch.

Not only do we have to put up with morons enquiries about spunky XYLs and fouling the air-waves with four to six (if better educated) letter words, we also have to put up with quite expensive licence fees and a complete lack of interest from DoTaC in the overall condition of 11 metres.

This is all bad enough, but, there is of course always the threat of station closure due to TVI or BCI to a neighbor's television or radio.

The fact that it is often more the case of a poor quality TV or radio allowing signals into it than a CB being out of tune of whatever has nothing at all to do with the situation.

Regardles of how clean your station is the fact remains that if a neighbor complains about TVI it's you who will be closed down.

This, despite the fact that the afflicted TV might well be an el-cheapo import which doesn't even comply with Australian standards.

What, if any, rights do CBers have. .?

To put it in a word — **none.**

My own situation is, I believe, probably the same as many thousands of other CBers.

About a year back I was closed down by an RI after a neighbor made a complaint about my rig causing TVI to her European television set which she brought with her when she came to Australia from England.

The RI freely admitted that my rig conformed with specifications, that my antenna was in good condition and there was nothing whatsoever wrong with my station.

But, I was still put off air.

Thankfully, the person who had complained about the TVI was transferred interstate several months later and the new neighbor, with a different TV, had no problems so I was back on air.

Now I am off the air again with a problem of my own.

The electrical power lines outside my home are generating noise to the level of, often, strength five to eight and candidly I can't hear a damn thing other than this noise.

When I complained to the SEC I was told I first had to complain to DoTaC which I did and they told me that unless the power lines were causing interference to my TV or radio they just weren't interested.

What a bloody joke.

First I'm put off air because a neighbor has a poor quality TV and now I'm put off air by the SEC.

How is it that a person who pays nothing — that is, the neighbor with her TV set — can force me off air when the fault is not mine and I pay a licence fee?

But now, when it's the SEC's problem, no-one is even half interested unless it affects either my TV or radio.

Talk about bloody double standards.

The Australian CBer is arguably the most apathetic, put-upon, ripped-off and generally treated as a lowlife person in the country.

WE WERE WRONG

Dear Sir,

Congratulations on your articles on S.W.L., this is a grey area as far as magazines are concerned. I think your magazine would be the only one with such a segment at the present time.

Unfortunately, some of your information is incorrect and you could finish up with a lot of frustrated readers/listeners. Deutsche Welle (Voice of Germany), Cologne has never used any of the frequencies listed for the 2100hrs-2150hrs UTC transmission to Australia in English in the last twenty-five years that I know of.

The correct schedule is as follows:

Period 5th September 1988 to 6th November 1988. To Australia.

2100hrs-2150hrs UTC in English. 7130kHz, 9650kHz, 9765kHz, 11785kHz.

0900hrs-0950hrs UTC in English to Australia.

6160kHz, 11945kHz (blocked by a Chinese transmission), 17780kHz, 17875 kHz, 21650kHz, 21680kHz. All at good level and should be able to be received on reasonable equipment.

As this schedule finished before your next edition I would be only too pleased to forward the new schedule, it should have arrived before this.

The address for reports to Deutsche Welle is as follows:-

DEUTSCHE WELLE,
HOCHFREQUENZTECHNIK,
POSTFACH 100444,
5000 KOLN 1,
FEDERAL REPUBLIC OF GERMANY.

Radio Nederland Wereldomroep does not transmit to Australia or anywhere on 9675kHz between 1030hrs-1130hrs UTC.

It does, however, transmit to Australia in English between 1030hrs-1125hrs UTC on 9505kHz via the Bonaire relay. The best listening time is at 0730hrs-0825hrs UTC on 9630kHz and 9715kHz, also via the Bonaire relay.

These transmissions can be heard using a piece of wet string for an aerial.

Another transmission to Australia at 0830hrs-0855hrs UTC at reasonable reception on 9770kHz also via the Bonaire relay and in English.

The above frequencies and times are good until the 25th March, 1989.

The address for reception reports is as follows:-

RADIO NEDERLANDS WERELDOMROEP,
POSTBUS 222,
1200 JG HILVERSUM,
THE NEDERLANDS.

Radio Canada is another station heard at reasonable levels in the morning beamed to this area and in English.

2200hrs-2230hrs UTC, on 11705kHz via the Yamata relay.

1200hrs-1230hrs UTC, on 15385kHz via the Yamata relay.

Address for reception reports is as follows:-

RADIO CANADA INTERNATIONAL,
P.O. BOX CP 6000,
MONTREAL, CANADA. H3C-3A8.

I hope this information will be of use.

William A. Nixon,
Stafford Heights,
Queensland.

We don't have any rights and we don't have any say.

Yet, I would love to know just how much the authorities rip-off us in licence fees per year on a national basis.

One thing is for sure, they've cured me of anything to do with CB and I'm now studying for an amateur licence where you at least have someone on your side.

Jack Reynolds
Caulfield
Victoria

Hang about Jack, you've only heard half the story.

Yes, we're in complete agreement with everything you say and until CBers become a united and organised group things are going to stay precisely as they are now — except that it'll probably get worse.

Unfortunately for us and happily for the authorities, CBers have not had any semblance or organisation since things became legal.

At least prior to that there was a huge ground-swell of opinion which eventually forced the authorities to acknowledge that CB existed and, even though it was the worst thing that ever happened, it became legal.

Since then, those who know have played it exactly right.

They have allowed the service to degenerate into a totally disorganised shambles with the end result that you, and others like you, have chucked their CB away and either gone onto amateur radio or forgotten about the whole thing.

So, like we said, until CBers become united (and that seems to be considerably less than likely) we'll keep on wearing whatever is dished out to us.

Now just to put you right on your final point.

There is no guardian angel who looks after amateurs.

They are, however, at least organised into State associations and have the WIA (for what it's worth) to go to bat for them on some aspects of operation.

As for the interference from power lines, amateurs have exactly the same problems with this as CBers.

I know of amateurs who can literally only point their beam in one direction because as soon as they swing it in a different direction the interference is so severe that they can't hear a thing.

So, that all means go for your amateur licence, but, don't expect it to change a thing.

Editor

AN OPEN LETTER TO ROD FEWSTER

Dear Mr Fewster,

It's interesting to note that you, the undisputed Grandfather of Australian C.B. Radio and longtime staunch supporter of "emergency monitoring organisations", haven't made favourable mention of same in your Queensland Scene for some two years or more. (I note also that there's been a paucity of "emergency monitoring" articles in the magazine proper during the same period).

Could it be that you, and by extension, C.B. Action, have at long last seen these organisations for what they really are?

Have you, after all the years you spent blinded by the light emanating from the media-created halos of "The Monitors", finally realised that they are predominantly nothing but glory-seeking social misfits who band together to wallow in mutual self-admiration while continually trying to elevate their miserable collective standing in the community by touting themselves as selfless Good Samaritans who give up every moment of their leisure time to scan the ether for distress calls?

Is it possible that you've finally realised that the plethora of breakaway "splinter groups" was not created by dissatisfied "monitors" wanting to provide better "service" than that provided by their original organisation but by ego-trippers who weren't getting enough of the limelight and weren't content to play second fiddle any longer? (The glory-seeker's handbook tells us that there's far more potential to receive personal recognition and praise from the media if you're a big wheel in a small local "emergency monitoring group" than there is if you're just one of the plebs in a large national organisation.)

It's an undeniable fact that since you (and C.B. Action) ceased praising the "noble and self-sacrificing work" performed by these nauseating groups of publicity-hounds, the attraction of "emergency monitoring" has fallen to an all-time low. (The proof of the monitoring is in the mayday. Just try calling for help sometime, but make sure you're not bleeding to death when you do.) This highlights the fact that, in the absence of the "reward" of the printed pats-on-the-back they need to boost their crippled egos, these self-proclaimed Florence Nightingales of the Citizens Band quickly lose the urge to be "emergency monitors".

I thought you'd woken up to the Glory Boys some years ago when you started giving it to CREST on regular basis, but my diagnosis was wrong. Hopefully I haven't misinterpreted your current apparent lack of interest in reporting on "emergency monitoring". Keep it up. Without publicity they'll wither and die like the noxious weed they are.

No doubt publication of this letter will bring forth howls of indignation and letters of rebuttal from "monitors" who recognise themselves by description but that's what Freedom of the Press is all about.

Robert W. Smith

From where I sit the answer is strictly "no comments". How about you Rod. . .?

Editor

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LEGEND TO GRAFEX SYMBOLS

- ● Propagation is possible but probably on less than 50% of the days of the month.
- % Propagation is possible on between 50% and 90% of the days of the month.
- 'F' Propagation is possible by the First F modes on at least 90% of the days of the month.
- 'E' Propagation is possible by the E mode on at least 90% of the days of the month.
- 'M' Propagation is possible by both the First and Second F modes on 90% of the days of the month.
- 'S' Propagation is possible by the Second F mode on 90% of the days of the month.
- 'A' High absorption — above the ALF but probably too close to it for good HF communication.
- 'X' Complex mixture of modes including the Second E Mode.

DATE JANUARY 1989 ADDRESS NO. 8303

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Club NEWS

Well this is exciting — more and more clubs are continuing to pass in their club news on a regular basis. Why, one large club even sent me some news. C'mon Les, that was not a nice crack calling a magazine 'sometime' — we have seen yours remember, and it did take nine weeks from when I phoned you to write and we still have no word form the Brolgas or Albatrosses.

METRO WEST RADIO CLUB

The club now has a total membership of 140 in Australia and even one US member.

A big bonus for this up-and-coming club is the team spirit that exists (often lacking in other clubs) and currently it is running a radio course for children in the western suburbs.

The police are 100 percent behind the club in its attempts to train young people and the club is trying to do a line-up around Australia with other groups. The club has a presentation day at the end of the course when certificates are awarded.

The club has its meetings monthly at the Police Citizens Youth Club in Luxford Parade, Shalvey.

FIREFOX INTERNATIONAL GROUP

Have received a letter from Udo von Kujawa (841), secretary of the club telling a tale worth repeating.

Recently one of the members, Atieita (051), in the Republic of Kiribati (for us old fogeys that's the Gilbert Islands, about 200 kilometres north of Fiji) had problems with his radio and after some excellent contacts suddenly went off air. He phoned Max (490) in Queensland and asked him to get some parts.

Max talked to Fred 842 about the situation on air and suddenly: "BREAKER". Tom the 114 said; "Forget the parts, buy him a new radio, here is $25.00."

"BREAKER", This time Allan from the Sunshine Coast (north of Brisbane) said: "I'll give some money, too".

The breakers continued until they had most of the money together. They decided on a Uniden AX-144.

The club's secretary, Udo, got in contact with the promotions department of Dick Smith Electronics and with the help of Austin Cox the club purchased a radio for a very good discount.

At last, Atieita, located on Tarawa Island, received the new radio. Everybody waited. . . His first message was: "The newspapers of our country took photos of me, QRT".

A large thanks from Atieita to all those that helped. Incidently, Udo, or should I say coincidentally, I heard of and spoke to Atieita for the first time the day I received the letter from you. Please pass on my address to him and best regards from CB ACTION.

SYDNEY RADIO GROUP

After three months the group still has not received a reply to its letter of complaint to the Federal Government minister with regards to harassment and bad language on-air. Several hundred people signed the letter at the field day and if any clubs would like a copy they need only ask.

The good news from the club is that radio inspectors have been particularly active in Sydney and are on the lookout for infringements of the Act including bad language and harassment.

A club member recently had a visit from Mr Norman Clarke, a departmental inspector, after a complaint had been received from a neighbor (who had just installed a new color TV) that the club member was causing TVI (sounds like a one-kilo linear to me).

In opposition to all the bad reports, rumors, furphies and other strange stories, not only did he (the inspector) have two arms, two legs, two ears and no antennae he was also courteous, polite and more importantly, easy to talk to.

He went completely over the radio equipment and gave it a clean bill of health.

The problem it seemed, lay completely with the person who had complained. Not only was he using one of those famous broadband antennas (ring DoTaC and hear what it has to say, he was running it all through a masthead preamp.

On other fronts, the group is about to start a course to guide interested people towards gaining Amateur Radio qualifications — anyone interested should contact Jim 02SR45 (VK2XJX)

ALBANY COMMUNICATIONS GROUP

Ken, I am getting more confused by the minute (that's not hard). Apart from letters going astray I finally got two dated two days apart.

It would seem that the past few months in Albany have been fairly quiet because of winter conditions. At a recent barbecue at Frenchman Bay a meeting was held to discuss future activities. Barbara (09) offered to donate a plaque towards a QSL Dxathon which was held last July and finished on 4 August. The winner was Annita (17) 34 contracts — Perpetual. Second was Kevin (46) contacts — one-year membership. Third was Amanda (56) contacts — 25 QSL cards.

AUSTRALIA ALL OVER TOUR ALL OVER

It is sad to announce that Reg Richards, Brolga One, had to curtail his fund raising cancer tour due to a heart attack in South Australia.

Reg, back in Townsville, seems to be well on the mend. C'mon Reg, we want you sitting on the fence again.

THE ECHO VICTOR WHISKEY RADIO CLUB

This young club has now grown to over 70 members, some nationally, some internationally and still is offering membership at a reasonable rate. How about an activity report?

OMEGA RADIO CLUB

The club's Golden Yagi award for services rendered to CBers in general or UHF in particular, was presented to Clarrie, VAQ593 of Sale, Victoria for "his driving force and leadership inaugurating the repeater network of Channels 02 in Moe, 06 at Mt Fatigue, 07 at Bairnsdale and 01 at Mt Nugong in the Latrobe Valley, Victoria and the establishment of the Gippsland Repeater Association."

Les, thanks for the info. I have passed the rest on to Greg.

CARRAJUNG UHF REPEATER ASSOCIATION

Thanks to a letter from Jean Barics of Port Albert, Victoria we now have some information on the club and the uses UHF is put to. Read on . . .

Jean informs us that the club has been going for four years.

Carrajung is located in the hills south of Traralgon in the Latrobe Valley.

The club's area extends from the hills in the north-west to the coastal areas, from Port Albert along the Ninety-Mile beach to Lakes Entrance and Warragul in the west.

Jean, you did not mention the 4/34 repeater, however, we will assume that the club maintains and operates this piece of equipment.

The club has around 200 members and supporters.

It also has a club get-together on-air on Thursday nights for an hour. Jim VCN033, the club's 92-year-old member, starts the proceedings with the chimes of his Westminster clock at 8pm. Jim is known Australia-wide as Westminster 1 (skip on UHF).

VIKING CB RADIO CLUB

Seems I made a few goofs in the last report on this club. I have checked my records and no, I can't blame editor Len Shaw.

For the record, here goes: Liaison officer Yvonne, Viking 8; social organiser Jean, viking 44; welfare officer Robyn, Viking 19. Hope that sets the record straight.

Here's something to think about. Why are CBers reluctant to use their last name? No, I don't mean on-air. I am talking about when they write.

I can think of several reasons. What do you think?

Address all mail to Graham Cotterell, PO Box 184, Northbridge, NSW 2063.

DX INTERNATIONAL

Compiled by Jack, 67-W-07

As the year 1988 draws to a close, I think we can all arrive at the same conclusion that it was indeed an excellent one as far as DX activity was concerned on the 11 metre HF band.

Although, of course, there were days of near total quiet on the band due to severe solar disturbances, which results in little or no DX at all, there were other days when the band errupted into a mad frenzy of signals from all parts of the globe.

Places seldom before heard started to appear, causing many of us to thumb through the pages of an atlas to find out where these countries were actually located.

A few surprises were also to be had during the year 1988, as we witnessed, and also became part of, with many sporadic longpath openings on the band, some lasting only a few minutes, others stretching into hours. These sporadic openings gave many operators new countries and thus generated new interest into the hobby of DXing, both via the shortpath and longpath.

Along with the increase of DX activity on the band came hordes of new operators, some were welcomed, others were not. Many of the oldtimers and more well known DXers, especially from the mid and late 1970s appeared back on the band, some after an absence of many years.

Also associated with the upsurge in band conditions various complaints were lodged, particularly against our Asian neighbors, who have been infiltrating segments of the 10 metre amateur band in great numbers causing undue interference. The Australian 27 MHz marine band segment is also suffering from the same ailment as DX conditions improve. These out-of-banders, the majority from Indonesia, Japan and Taiwan have little regard or respect for international laws laid down governing frequency useage and allocations and are thus giving CB operators a bad name. I honestly think it is now a case of shutting the gate after the horse has bolted so to speak.

AFRICAN & INDIAN OCEAN REGIONS

Unpredictable would be the best description used to cover DX conditions to the African continent. Although signals from the southern areas of Africa are coming in, namely, South Africa, Namibia, Zimbabwe,, Lesotho and Botswana to mention a few, the mid and northern areas are still reasonably hard to procure.

The 105-AT-105, Graham, in Botswana has been active on the band despite local monkeys pulling his longwire down from time to time. He is still active in the early and late afternoons with a reasonable signal.

The Gruppo Radio Italiano, Alpha Tango, launched a DXpedition into Tanzania by way of Roberto who was signing 83-AT-101. However I failed to log any existence of his activity on the band. If you were lucky to catch him his QSL manager is Antonio, 1-AT-502 in Sicily.

I did hear a weak signal via the longpath from the "Jolly Roger" DX Group's expedition to Kenya around 2145z. The only problem — there were hordes of Americans calling, thus making it difficult for Australia to be noticed. Also I was told that their operations were restricted due to some "trouble" nearby.

Monrovia, the capital of Liberia on the north-west coast of Africa, has been noticed on the band from around 1000z through to 1130z. The station, signing with a 42-AT call was engaged in heavy combat with the hordes of Europeans trying to work him, and his signal was barely audible here in Australia.

A reasonably good signal was noted from Lagos, the capital of Nigeria, by way of "5NYL". Despite excessive noise from Europe he managed to work a station in the Northern Territory, although the southern states did not get a look in as he quickly returned to work the pile-up of Europeans. Nigeria was noted at 1045z.

Morocco has also been noted on the band in the wee hours around 1450z, although his signal was weak. The band near closed this way but he apparently had no trouble hearing the United Kingdom.

An excellent signal from the Maldive Islands comes from Louis, who signs as 1-VC-21. Noted at the unusual hour of 1330z, he was heard working 36-AT-102, Guido, in San Marino Republic. Louis is operating from the Halaveli Island resort within the Maldives group but seems to prefer European contacts to Australia.

I haven't heard "YC" operated by Hugh out of Mauritius Is for some time although there have been other operators noticed on the band during the daylight hours. Most were speaking in French, mainly directing their calls to New Caledonia and Polynesia.

A hard station to catch is Lyle, signing as MB-204, "mobile" in Mozambique. Lyle sounds the typical English gentleman and was monitoring working Western Australia on 0543z with a readable signal. He mentioned his times are restricted owing to increasing hostilities in the district.

MIDDLE EAST & ARABIA

There have been quite a few surprises coming out of these areas and, with the improvement in DX conditions, the signals should get progressively stronger. Always a good signal is Saad, signing at 115-AT-102 out of Qatar, who is active most days from around 1600z. Being the only active Alpha Tango member he is very popular with the European countries.

Signals from South Yemen have been there once again but still very poor. They are noted around 1800z through to the close of the band but are indeed very difficult to secure.

It appears the "151" operating from the United Arab Emirates, which is next to Qatar, has trouble with his receiver as numerous calls directed to him from Australia seem to go unanswered. He was a good strength nine here around 1115z. The "163", Tim in Western Australia, informs me that a lot of the Emirate stations will not work Australia for some strange reason. Seems you may be correct after all Tim.

Israel has been very active on the band also. Along with Tolly, who signs as "DELTA STATION" some new operators are appearing, usually from around 0430z onwards although securing a QSL confirmation seems to be an ongoing problem at this stage.

Some reasonable signals have also been heard coming from Saudi Arabia, Jordan and Egypt along with the regulars from Lebanon. One particular station is "PEDRO" operating out of the northern Egyptian seaport of Alexandria. He was noted around 2000z with a readable signal.

Quite a few stations in Europe have been noted calling Algeria and Tunisia although nothing heard at this end. I heard the odd signal from Turkey around the same time, 1730z through to the close of the band.

EUROPE

Conditions on the band to Europe have been so good it is nearly impossible at times to pick a station out of the fiasco of noise on the band. Most of the most experienced DXers are, of course, chasing the harder-to-get countries and at times are getting them too, it's all a matter of patience.

An extremely strong signal out of the Republic of San Marino is Guido, who signs as 36-AT-102. At times he is hard to get as San Marino is a sovereign state or principality lodged within north-east Italy, just inland from the Adriatic Sea. The rest of Italy at times overpowers his signal, making him very difficult to hear.

Luxembourg also has been noted on the band too, by way of Freddy, who signs at 54-AT-0. Freddy launched his own DXpedition by driving 400 kilometres from his home in Belgium to activate this tiny country for DXers, actually twice in 1988. On his first DXpedition Freddy made 110 contacts over two days in 29 different countries and was active 0600 to 1800 local time in Luxembourg. Also on 15 November, he was noted doing another two day stint. Good luck Freddy and thank you.

There is a rumor circulating about a planned DXpedition by Alpha Tango members to Faroe Islands to boost operations there, but as yet, nothing accurate has surfaced regarding this one.

The Balearic Islands have also been heard on the band, both on the sporadic longpath during the mornings and again on the shortpath at night. A reasonable signal was heard from 49-AT-102, Jaime,and also 49-AT-130. Their signals were mingled in with the rest of Europe making it hard at times to hear them properly.

An interesting catch for DXers in Australia has been Aland Island, the home of Teppe who signs as 212-AT-102. Aland Island is located between Finland and Sweden at the mouth of the Gulf of Bothnia. I have also been informed that Teppe and the 212-AT-105 launch the odd DXpedition to Market Reef which should be one worth looking for as Market Reef used to be, and possibly still is, a rare one on the amateur bands let alone 11 metres. If you can hear Scandinavia then take the time to listen for Aland Island.

Eastern Europe has started to come in a lot better lately with the "UB-01", Grey, from the Ukraine part of the USSR putting in a good five and nine around 1300z, also

the heavily accented station "LOB" out of the USSR was noted just after Grey with a good strong signal. The odd station from Hungary by way of Zsolt, signing as the 109-AT-138 being heard at 1145z, was noted. Some poor signals out of Poland and Rumania have also been heard but are quickly snapped up by the United Kingdom and France.

Some very weak to reasonable signals have been heard from Iceland and Greenland around 1000z through to 1400z and at times later, but are again snapped up by the UK and Southern Europe. If the band keeps improving we could be in luck here in Australia.

Activity from the Azores Islands have also been noted here, with a 75-AT station being noted at 1415z when the band was about to close. The Azores Islands are in the Atlantic Ocean, north-west of the Canary Islands and west of Portugal.

East Germany was also heard on the band trying desperately to break free of the noise generated by western Europe. He was signing a "Y2" around 1000z but was having some difficulties instigating discipline on the frequency. Hordes of United Kingdom and Ireland stations were calling him and in the end he just went off the air in disgust after repeated requests for order on the frequency. The squabble was still going on 10 minutes after he left the frequency ! !

One to watch for is Ivo, signing as 40-AT-137 out of Liechtenstein, a small country wedged between the borders of Austria and Switzerland. A good time to look for Liechtenstein is when Austria and Switzerland are strongest.

The United Kingdom and Ireland have literally surged in since the increase in DX conditions of late. Signals have been extremely strong from all of the districts, including the Channel Islands where 169-AT-113, Ivan, has been very active along with Robbie 169-AT-106. Both are located on Guernsey in the Channel Islands. The Shetland Islands, which are north of Scotland, have also been heard but do not confuse them with the South Shetland Islands, which are in the Drake Passage off the tip of South America. The UK and Ireland start to come in around 0400z through to 1500z at times, although signals drop off around 1300z onwards.

Excellent signals have been received from Austria and Switzerland. Paul, signing as 15-AT-121 near Speicher in Switzerland, is doing well on the 'S' metre as well as Freddy, from Austria signing at 35-AT-171. Freddy lives in the city of Vienna.

CENTRAL/SOUTH AMERICA & THE CARIBBEAN SEA

At various times signals from Central America have not been as good as they were a few weeks back, but they are still there although stations from El Salvador, Honduras and Nicaragua still remain scarce at times owing to political unstability within. From time to time, Tobias, signing as UNIT 4525 out of El Salvador, is active when local conditions permit so to speak.

The Gruppo Radio Italiano, Alpha Tango, launched a DXpedition into Nicaragua with three operators on air. One was Marco, who signed with the call 126-AT-00 and was a good strength nine to the east coast of Australia around 0359z. At the time they had already made 227 contacts on the band. The QSL Manager for the Nicaraguan DXpedition is 1-AT-057, in Italy. Cards will only be answered providing they have a contact number displayed, also a small donation should be included to help cover the costs, a green stamp or two would be sufficient.

Signals from the Caribbean Sea island groups are still about with 122-AT-116, Trevor, in Bridgestone, Barbados, leading the way. Also from Curacao, in the Netherlands Antilles, station "LUCKY 13", operated by Ricky, is coming in with a reasonable signal despite Ricky using limited antennas at present. The usual gang from Aruba Island in the Dutch West Indies, is, as always, doing quite well here. Leo, who signs as 1-FE-05, and John, who signs as 1-FE-01, are very popular here in Australia. Both are located near Oranjestad on Aruba Island. The best times to look for the Caribbean area is anytime from daylight onwards until around 0500z depending on conditions.

One particular country I would like to mention is Belize, a small country on the Caribbean Sea side of Central America. I have yet to hear any activity from this country. Perhaps someone can write and tell me if they have this one and when.

(continued over)

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DX INTERNATIONAL (continued)

South America has most certainly cashed in on the propagation upward trend. Over the past few years I have heard good signals from every country that makes up South America with only one exception and that is Guiana (ex British Guiana). I have heard the bordering countries of Surinam to the east and Venezuela to the west but nothing from Guiana itself. Write and tell me if you have this one including the details as I would be most interested.

Some of the "Big Gun" signals have really fired up from Brazil with the majority of them being members of the Alpha Tango group. They have pushed the metre well into the red. An excellent signal from Brazil comes from Ricardo, who signs as 3-AT-161, Ricardo is at present on leave from the Brazilian Air Force and has spent most of that leave chasing DX thus leaving the girls alone on the beaches of nearby Rio De Janeiro.

The 4-AT-178, Carlos, in Cordoba, Argentina, has been very active and is very keen to work into Australia and the Pacific along with two other regulars also out of Cordoba, being stations "LOBO" and "CONDOR", operators Jose and David respectively. Although their English is poor, Jose and David try very hard for their contacts and have fun doing it.

From time to time the odd signal out of Uruguay makes the grade and at times moves the needle into the red. Most of the stations I have heard are from around Montevideo, the capital of Uruguay.

A good signal from Paraguay comes by way of Hansi, who signs as ZP-BC-636 out of Asunscion, the capital of Paraguay. Hansi sits up late into the night and early mornings by his radio chasing Australian and Pacific DX and speaks good English. Another one to look for is a station with a novel callsign of "COLD BEER" also out of Paraguay.

Bolivia has been putting some good signals into Australia as well. Many of them use "novelty" calls like the ones mentioned in Paraguay and Argentina sections but there are some 80-AT members out of La Paz, the capital, also worth looking for. I noticed a lot of them are not too fluent in the English department so it may be time to brush up on your basic Spanish for these.

I have noticed quite a few strong signals coming from Peru also, a variation of calls were noticed with the odd one in reasonable English. Peru seems to trickle in with oldtime regulars such as Chile, Ecuador and Colombia.

Toni, who signs as 61-SK-01 from Equador, puts in a very strong signal here along with 5-AT-140, Salvador out of Caracas, Venezuela.

The voice of Surinam, Loepie, who signs as WAC-1001, is still going great guns along with 73-SK-102, Frank. Loepie lives in the jungle of Surinam, near Wageningen, whilst Frank has the benefit of the luxuries of city-life living in Parambaribo, the capital.

French Guyana has also been very noticeable on the band with Jean, signs as "DB" out of the capital Cayenne, moving the needle well into the red at times. He too sits up rather late at night and into the wee hours of the morning to work Australia and the Pacific. Jean was a good 10 over nine around 0133z and just recently he was the same signal at around 0435z.

Some weak signals at times have been heard from the Falkland Islands both in the early mornings and mid-afternoons. A wee bit of longpath experimentation would not go astray here either. It is of course only a matter of time before they come up in readability and strength. Also it is interesting to note station "CARNIVALE", operated by Fernando who is a crew member aboard an Argentinian supply ship at Esperanza Station, an Argentinian possession located on the northern tip of Antarctica in the Scotia Sea. Fernando was heard at 1805z just readable. His English is poor and he does not QSL.

ASIA & PACIFIC REGION

Not a great deal of surprises from this region at the moment except for the odd signal out of the Truk Island group in the Eastern Caroline Islands. Teichy, who signs as TI-04, has been doing well for himself on the band.

Recently I heard 133-SF-101, Albert, who operates from Saipan Island in the Northern Mariana group. Albert was a very good signal here but conditions seemed to be one-way or else he wasn't interested in working Australia. Usually Saipan comes in the same time as neighboring Guam Island does. Saipan is also a separate country on the DXCC list from Guam too.

Easter Island, a Chilean possession in the Pacific practically due west of Pitcairn, has been noted on the band but with a very poor signal. 62-AT-102 Frank in Guam has been chasing after this one quite regularly, with some success.

Fiji, the Solomon Islands and Kiribati have been coming in from time to time in the late mornings through to the late evenings with reasonable signals. Also oldtime regulars New Caledonia, French Polynesia, Wallis and Futuna along with Papua-New Guinea are still around with a vengeance on the poor 'S' meter.

Macau, a Portugese territory off China, has been making the odd appearance. The signal has been poor and all I got was that the operator is Peter, no callsign as yet.

East and west coasts of the USA are still coming in regular with good signals all round. Even some good signals are coming from Canada and Alaska proving the band is still very healthy in this direction.

I haven't heard from Anne and Ron, who sign as "CI" operating from the Line Islands in Western Kiribati for some time. Perhaps they have moved on from the uninhabited Caroline Islands, where they built a hut and operated a solar-powered radio for some months.

I have not heard the American operating from Christmas Island for some time either and I know a lot of people waiting for a QSL from this one too.

All the usual signals are still coming out of Japan, Korea, Hong Kong, Philippines, Indonesia and Malaysia on a regular basis. I am still after Andaman Island, a possession of India just south-west of Burma.

Some weak signals have also been noted from Pakistan with a 114-AT member signing from there and the odd signals from India have also been heard, a much-needed part of Asia on 11 metres. I hope that the conditions pick up so these areas can be worked. India and Pakistan seem to come in during the late afternoons along with the Middle East and Europe.

Good DX and have a safe festive season, 73's, Jack. (all times quoted in Zulu (UTC).)

AUSTRALIAN UHF REPEATER LIST

AREA	CHANNEL	LOCATION	SPONSOR
New South Wales			
Newcastle	1/31	Charleston	—
Ebor	1/31	Near Armidale	—
Wingham	1/31	Wingham	
Jindabyne	1/31	Corinya Alpine Centre	Marist Brothers
Sydney	1/31	Hurstville	Practronics
Corowa	1/31	Corowa	Corowa Electronics
Tamworth	1/31	Windworth	Landlink Communications
Harden	1/31	Mt Bobbara	—
Wagga	1/31	Riverina Communications	—
Wilcannia	1/31	Murtee Station	—
Inverell	2/32	Inverell	—
Sydney	2/32	Argent Communications	—
Canberra	2/32	Isaacs Ridge	Philips Communications
Parkes	2/32	Parkes	Bionics Australia
Narrabri	2/32	Castletop Mountain	Lance Hannaford Elect.
Walbundrie	2/32	Walbundrie	Corowa Electronics
Lismore	2/32	Raus	—
Murrundi	3/33	Liverpool Range	—
Sydney	3/33	Prospect	Philips Communications
Tenterfield	3/33	Mt McKenzie	Nathan Ross Electronics
Taree	3/33	Taree	—
Deniliquin	3/33	Deniliquin	Deniliquin Machinery
Tumbarumba	3/33	Mt Ikes	—
Armidale	4/34	Armidale	New England Mobile Comm's
Hay	4/34	Phil Shields Electronics	—
Broken Hill	4/34	Broken Hill UHF Club	—
Cooma	4/34	Blamac Communications	—
Sydney Outer-west	4/34	Riverlands Rpt Group	—
Goulburn	4/34	Mt Gray	Double Diamond
Albury	4/34	Lavington	Albury Communications
Muswellbrook	4/34	Mt Arthur	General Communications
Bega	6/36	Mumbulla Mountain	Athol McCoy Two-Way Radio
Casino	6/36	Mallanganee Range	Nathan Ross Electronics
Newcastle	6/36	New Lambton	General Communications
Coffs Harbour	6/36	Coffs Harbour	Country-wide Communications
Moree	6/36	Terry Hi-hi	Des Groth Radio-Electronics
Cowra	7/37	Bellview Hill	Harvey Electronic Service
Sydney	7/37	Chatswood	Philips Communications
Brendalilla Ranges	7/37	Outward Bound Aust.	—
Broken Hill	7/37	Broken Hill UHF Club	—
Bulahdelah	7/37	Cabbage Tree Mt	Great Lakes UHF Rpt Group
Wagga	7/37	Wagga	Riverina Communications
Glen Innes	7/37	Mt Rumbee	Glen Innes Amatuer Radio Club
Bathurst	8/38	Mt Panorama	Serv-U Appliance Centre
Stanthorpe	8/38	Amiemn	—
Sydney outer-west	8/38	Kurmond	Riverlands Rpt Group
Wollongong	8/38	Robertson	Phil Day
Walcha	8/38	Walcha	WALGRAZ—
Portable NSW	Various	NDP-826, GT Electrics	—
ACT			
Canberra	2/32	Isaacs Ridge	Philips-TMC
Canberra	8/38	Isaacs Ridge	Philips-TMC
Victoria			
Penshurst	1/31	Mt Rouse	Hamilton UHF Users Grp
Bairnsdale	1/31	Gippsland Rpt Assoc.	—
Melbourne	1/31	Omega Radio Club	—
Alexandra	1/31	Mt Eildon	Weeks Radio
Mansfield	2/32	The Paps	—
Moe	2/32	Moe	Gippsland Rpt Assoc.
Ballarat	2/32	Mt Buninyong	Central Highlands Rpt Assoc.
Lorne	3/33	Weeaproinah	—
Melbourne	3/33	Lysterfield	Philips Communications
Melbourne	3/33	W.I.A. (VIC Division)	—
Mildura	3/33	Ferguson Security & Sound	—
Yelta	3/33	Yelta	Nor-Co Sales & Service
Strathbogie Rngs	3/33	Mt Wombat	Goulburn-Murray Rpt Group
Bendigo	4/34	Specimen Hill	Central Vic. Rpt Assoc.
Geelong	4/34	Geelong Amateur Radio Club	—
Carrajung	4/34	Carrajung	Carrajung UHF CB Rpt Assoc.
Hawkesdale	4/34	Hawkesdale	—
Hamilton	5/35	Mt Bainbridge	Hamilton Electronics
Melbourne	5/35	Olinda	Paravic Sports Assoc.
Foster	6/36	Mt Fatique	Gippsland Rpt Assoc.
Ararat	6/36	Mt William	Mt William UHF Rpt Committee
Wangaratta	6/36	Warby Ranges	Corowa Electronics
Gippsland	7/37	Mt Taylor	Gippsland Rpt Assoc.
Shepparton	7/37	Shepparton	Angus Communications
Ballarat	7/37	Ballarat Communications	—
Melbourne	7/37	Frankston	Powerband Communications
Myrtleford	8/38	The Alpine Rpt Group	—
Cavendish	8/38	Mt Dundas	Hamilton UHF Users Grp
Bendigo	8/38	Mt Alexander	—
Portable Vic.	Various	State-wide	Omega Radio Club
Queensland			
Bundaberg	1/31	Mt Perry	Bundaberg HI-Fi Stereo
Mt Isa	1/31	Lake Julius	Qld Education Dept.
Brisbane	1/31	Mt Cotton	Philips Communications
Rockhampton	1/31	Mt Archer	Capricornia UHF Rpt Assoc.
Atherton-Mareeba	1/31	Rocky Creek	Marteens Electrtonics
Mt Stewart	1/31	Mt Stewart	Olbis Industries
Roma	1/31	Roma Teleradio	—
Middlemount	1/31	Middlemount S.E.S.	—
Leichhardt	1/31	Mt Hope	Driscoll Pastoral
Clermont	1/31	Clermont	—
Gunalda	2/32	Mt Kanigan	Ralph Hill Electrical
Taroom	2/32	Mt Kinnoul	Taroom Rpt Assoc.
Toowoomba	2/32	Picnic Point	Custom Scientific Electronic
Marlborough	2/32	Broadsound Range	Marlborough UHF Rpt Assoc.
Quilpie	2/32	Trinidad Station	D.E.A. Pegler & Co.
Ingham	2/32	Mt Cudmore	R.E. Fugh
Mackay	3/33	Farleigh	Mackay Citizens' Rpt Group
Monto	3/33	Pine Mountain	Monto UHF Rpt Committee
Tin Can Bay	3/33	Double Island Point	Tin Can Bay Lions Club
Springsure	3/33	Rodda Lookout	Bauhina S.E.S.
Cairns	3/33	Mt Yarrabah	GCG Communications
Bajool	4/34	Mt Hopeful	Mt Hopeful UHF Rpt Assoc.
Dalby	4/34	Mt Mowbullan	G.T. Communications
Ipswich	4/34	Ipswich Repeater Org.	—
Bundaberg	4/34	The Sloping Hummock	Bundaberg Hi-Fi Stereo
Goondiwindi	4/34	Goondiwindi	Border TV & Radio
Gold Coast	4/34	Coolangatta	Philips Communications
Brisbane	5/35	Mt Glorious	ACRM (Qld)
Caloundra	6/36	Bald Knob	Ralph Hill Electrical
Gladstone	6/36	Mt Larcom	Nixon Controls
Palm Island	6/36	Palm Island	Palm Island Council
Blackdown	6/36	Blackdown Tableland	Blackdown UHF Rpt Assoc.
Burnett Ranges	6/36	Mundubbera	Custom Scientific Electrical
Yaraka	7/37	Mt Slowcombe	Yaraka Rpt Assoc.
Brisbane	7/37	Toohey Mountain	Olbis Industries
Clermont	7/37	Clermont S.E.S.	—
Murgon	7/37	Mt England	Murgon Rpt Assoc.
Mt Alexandra	8/38	Mt Alexandra	Bill Jones Comms
Biloela	7/37	Mt Bertha	Biloela Rpt Assoc.
Stanthorpe	8/38	Amiens	Mt Peanga Rpt Assoc.
Chinchilla	3/33	Mt Peanga	Mt Peanga Rpt Assoc.
Emerald	8/38	Emerald	Emerald District Rpt Asc.
Pialba	8/38	Ghost Hill	Maryborough Sugar Factory
Milaa Milaa	8/38	Milaa Milaa	Bill Jones Comms
South Australia/ Northern Territory			
South Australia/Northern Territory			
Adelaide	1/31	Summerton	Philips Communications
Carrieton	1/31	Price Hill	—
Darwin	1/31	Darwin	Seascan Communications
Black Rock Peak	2/32	Black Rock Peak	Toops Electrical
Cleve	2/32	Mt Nield	Cleve Rpt Assoc.
Myponga	2/32	Myponga Hill	Volunteer Coast Guard
Adelaide	3/33	Trott Park	Philips Communications
Blinman	3/33	Patawarta Hill	—
Barossa Valley	4/34	Barossa District Rpt Grp.	—
Kangaroo Island	4/34	Parndana	Kangaroo Island Rpt Assoc.
Snowtown	4/34	Snowtown	—
Naracoorte	4/34	Lucindale	Naracoorte UHF Rpt Assoc.
Adelaide	5/35	Hawthendorne	ACRM (SA)
Renmark	6/36	Renmark	—
Whyalla	6/36	The Bluff	Mt Remarkable Council
Clare	7/37	Quarry Hill	Mid-North Rpt Assoc.
Mt Gambier	7/37	The Bluff	South-east UHF Rpt Assoc.
Mt Bryan	8/38	Mt Bryan	Mt Bryan Rpt Assoc.
Port Lincoln	8/38	Tumby Bay	Sth Eyre Peninsula Rpt Assoc.
Portable SA	Various	State-wide	ACRM (SA)
West Australia			
Denmark	1/31	Denmark	—
Kellerberrin	1/31	Kellerberrin	Central Wheatbelt Rpt Group
Kambalda	1/31	Kambalda	Goldfields Rpt Assoc.
Meekatharra	1/31	Hill View Station	—
Perth	1/31	Wanneroo	Philips Communications
Wickham	1/31	Wickham	Wickham Radio Club
Bencubin	2/32	Bencubbin	—
Bunbury	2/32	Shenton Ridge	Greyhound TV Sales
Albany	3/33	Mt Melville	—
Perth	3/33	Roleystone	Philips Communications
Boyup Brook	4/34	Dinninup	Boyup Brook Farm Comm's Group
Esperance	4/34	Esperance	—
Kulin	4/34	Kulin	—
Lancelin	4/34	Lake Karakin	Gingin Shire Council
Perth	5/35	Maddington	CREST (WA)
Margaret River	6/36	Ellen Brook	Margaret River UHF Repeater Group
Mt Marypeaks	6/36	Mt Marypeaks	—
Wyalkatchem	6/36	Wyalkatchem	D. & G. Pearce
Mt Barker	7/37	Mt Barker	Plantagenet Rpt Group
York	7/37	Mt Bakewell	York Rpt Group
Coolgardie	7/37	Mt Burgess	—
Manjimup	8/38	Manjimup Comm Radio Service—	—
Ravensthorpe	8/38	—	—
Portable WA	8/38	WA-wide	Gary, WAX-723
Tasmania			
Devonport	1/31	Roland	Rick Rickard, TAJ-652
Hobart	1/31	Grass Tree Hill	Southern Tas. Rpt Assoc.
Launceston	2/32	Mt Arthur	Launceston Rpt Assoc.
Devenport	3/33	Railton	Rick Rickard, TAJ-652
North-East Coast	3/33	Tower Hill	North-East Rpt Assoc.
Tasmanian Midlands	4/34	Millers Bluff	Midlands Rpt Group
Hobart	5/35	Mt Faulkner	CREST (Tas.)
East Coast	6/36	Mt Toombs	East Coast Rpt Assoc.
West Coast	6/36	St Valentines Peak	North-West Coast Rpt Assoc.
Central Highlands	7/37	Barren Tier	Central Highlands Assoc.
Burnie	8/38	Round Hill	North-West Coast Rpt Assoc.
Hobart	8/38	Mt Nelson	Harts Pty Ltd
Portable Tas	Various	Tasmania-wide	Rick Rickard, TAJ-652

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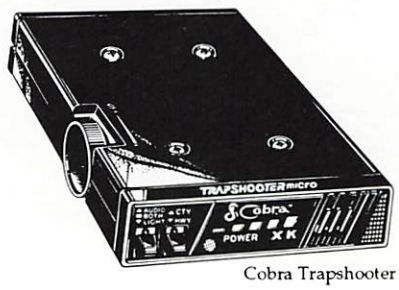

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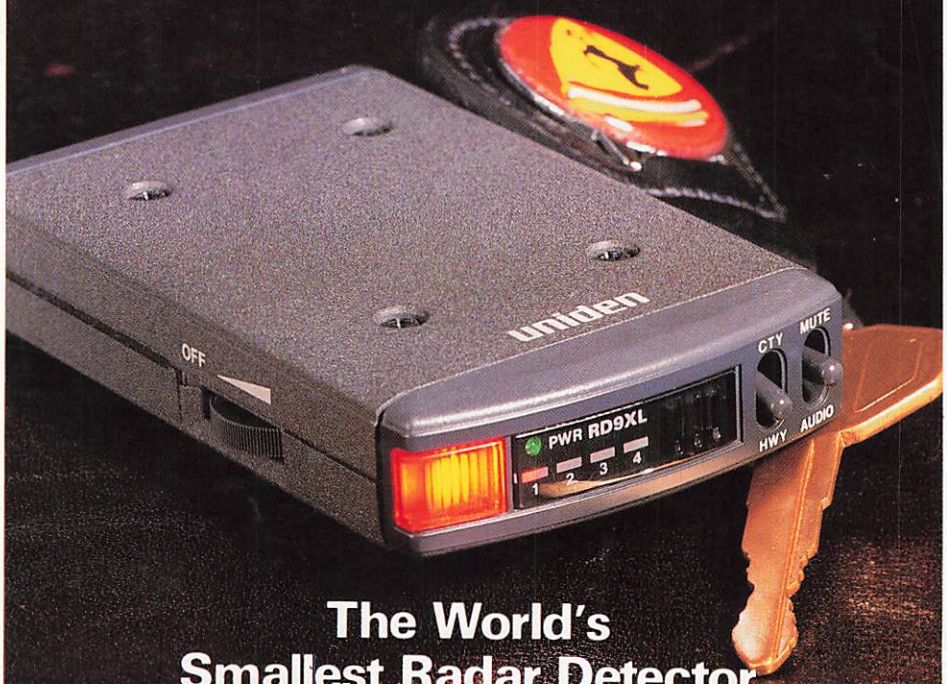

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